

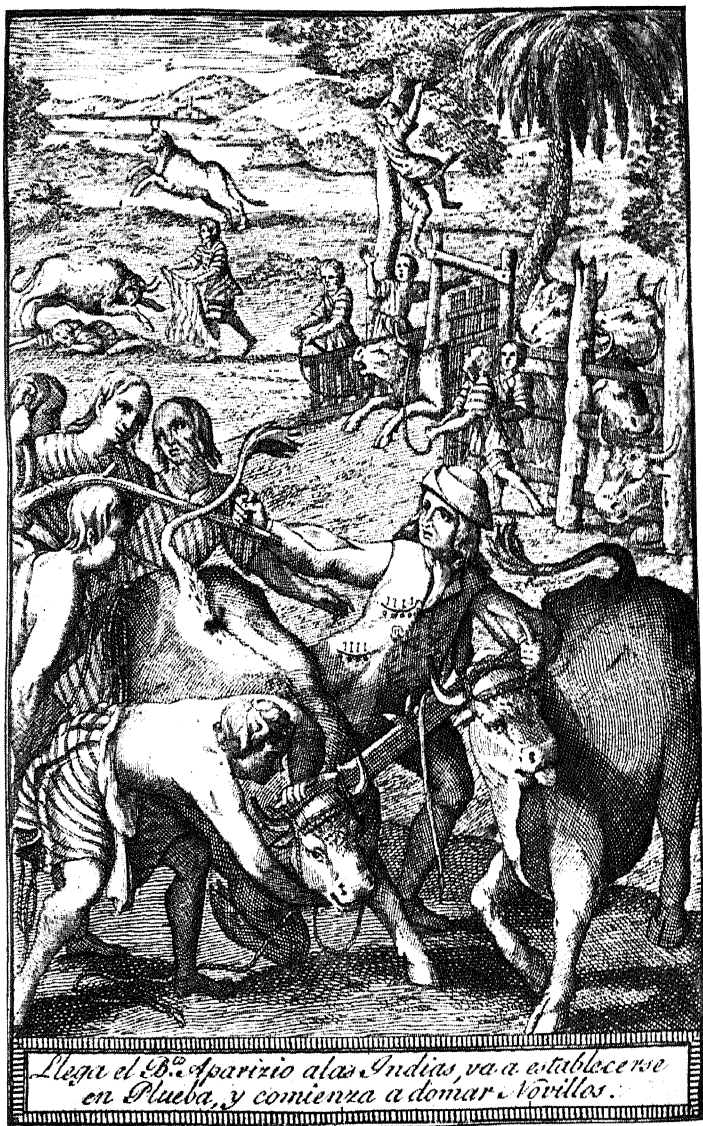


Then a book was still a book
Where a wistful man might
find something ^{look} thro
the whole
Beating like a human soul.



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FLOWERS OF OUR LOST ROMANCE



APARICIO BREAKING THE FIRST STEERS TO YOKE IN THE
NEW WORLD

Copperplate by Pedro Bombelli, Rome, 1789

FLOWERS OF OUR LOST ROMANCE

BY

CHARLES F. LUMMIS

*Author of 'Mesa, Cañon and Pueblo,' 'The Spanish Pioneers,'
'A Bronco Pegasus,' etc.*

WITH ILLUSTRATIONS



BOSTON AND NEW YORK
HOUGHTON MIFFLIN COMPANY
The Riverside Press Cambridge

1929

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The Riverside Press
CAMBRIDGE · MASSACHUSETTS
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INTRODUCTION

THERE never has been, nor ever again shall be, such another romance as that of earliest America. Greece was a long and wondersome Romance (and so was Rome, and so were the Crusades — and there were a hundred others of their category) — tall Romance, head and shoulders above the romance that has always gone with human life everywhere, and which we do not give a capital letter at all. But here, four hundred and eighty years ago, a whole New World burst upon the consciousness of the Old. It was bigger and wilder and richer and more strange than man had ever dreamed before; fuller of opportunities for conquest, of wonders, of mountains and rivers and waterfalls, of beasts and birds and reptiles and trees and flowers, all unknown and all intriguing; full of strange and innumerable peoples, from cannibals up to folk whose architecture might challenge that of classic antiquity; full of adventure, as adventure had never been known before; for in the Old World, man inched along from country to new country; whereas here — in two or three decades — Spain opened up to civilization a region as big as Europe and Africa. There were two centuries here of such exploration and such adventure (a compact picture of which is given in 'The Spanish Pioneers') as never before nor since has been launched by man.

Spain discovered the New World, and had it all to herself for more than a century — in which time she had explored it from Patagonia nearly to Canada, and from sea to sea. She had built, along a reach of five thousand miles, hundreds of cities and towns,

some of which grew with a rapidity previously unknown in history. Chivalry, adventure, and the missionary spirit — in mediæval quintessence — made of early America a story without a parallel.

The deeds of daring and devotion have been rivaled by man before and since, but never anywhere in such bewildering multitude and sequence; and in altruistic activity there is no match to the missionarying of the three Americas with their hundreds of savage or primitive or barbaric tribes.

The flora and the fauna were almost wholly new to Europeans. Nowhere else in the world are there rattlesnakes and humming-birds, condors or wild turkeys; nor redwoods; nor such a river as the Amazon, nor such swamps as the Amazonas, in which the whole of Europe could be hopelessly lost. Without precise knowledge, I fancy that nowhere else on earth, in any comparable area, are there so many different tribes of so many different languages.

And of course the aborigines had in many places the adventitious interest of possessing gold and silver — and the gold of Ophir had none the better of the treasures of Peru — while never has the world known anything comparable to the silver mines of Potosí and Cerro de Pasco and Guanajuato and Zacatecas.

The world's money markets, its literature, its cosmography, its science in general, were overturned and made new by these things revealed in America.

It was not until close to the seventeenth century that England awakened at all to the fact of the New World, and then chiefly through lordly pirates like Sir Francis Drake and Sir Walter Raleigh, whose principal interest in it was to plunder the Spanish

towns and galleons. The very petty part played by England in America in even the first two centuries of its discovery is shortly told. France made a gallant effort, to our north, and has left an enduring trace in a narrow belt almost across the continent. But it was not until our own Revolutionary War and the establishing of the Thirteen Colonies into the young nation, that our English-speaking folk began remotely to compare with the Spanish achievement in the New World; and they did not catch up with it for another fifty years.

Spain had bled herself white, sending her bravest and best to open and colonize the New World; she has never recovered from that gallant self-bleeding. And the day of Adventure and Chivalry is — like other things mediæval — a little bit old-fashioned. This is an age of Progress and Efficiency.

But still the young heart thrills — and, thank God, nearly all of us have a little youth at heart — to Romance. And when this shall cease to be so, the flower of mankind shall have withered and we shall be simply useful weeds.

This is not, however, a book of romances, *sole*. It is a textbook which *deals with the doings of men* — men and the astonishing details of their overcoming of the physical and other difficulties in a wild new world — such epics as are to be found everywhere in the pages of the inexhaustible Spanish treasures gathered by the *Conquistadores* and touching the Beginnings of America.

I cannot get over the profound conviction that some of our great universities and libraries might more usefully employ a part of their energies and monies by giving us English versions of the most important of these immortal Spanish histories and text-

books. No wonder we know so little of the early history of our own continent; with a few exceptions, these fascinating 'sources' are absolutely inaccessible to the English-speaking scholar.

Romance is a thing of the spirit — of ideals, of imagination. A cave-man wooing with a club, or a Puritan wooing with refrigerated words, is not romantic; but the simplest act of life may gain this poetic glow from the spirit in which it is done. As old George Herbert remarks:

'Who sweeps a room, as for thy laws,
Makes that and th' action fine.'

The dour spirit of the Puritans made their taming of New England as unromantic as so brave an adventure could be. They despised Romance, and John Alden and Priscilla are about the one pathetic little flower of their century.

The Spaniard, on the other hand, kept his childhood — his ideals and imagination and love of mystery and adventure, his chivalry and his warm humanity. He wasn't ashamed to show that he had feelings. It is no wonder that the discovery and the taming of the New World by such spirits has given us four centuries of uninterrupted and infinitely varied Romance.

As for the aboriginal Americans, it is a matter of ethnologic fact that they were full of mystery and idealism and imagination — therefore, of romance. It is only our own ignorance that has kept us from realizing this. We find, as we discover their ancient rituals and drama and creation myths, and their vast unwritten 'literature,' that they had the natural human heritage of those poetic qualities, which in the Puritans were warped and soured by peculiar

circumstances, and by an ingrowing pietism, with an abhorrence of joy as a danger to the soul. The first Americans — and in a vastly higher degree the Spanish conquerors and colonizers — looked on this as a good old world; with devils to be eluded, to be sure, but with a friendly god in charge; a world in which to be happy.

Theirs was no loose gospel of pleasure; they were never failing in the profoundest sense of moral responsibility, these single-hearted people of a simpler day; but when, in the spirit of unforgotten childhood, their peace was made with God — or with their gods — life was to enjoy.

FLOWERS OF OUR LOST ROMANCE

I

PIONEER TRANSPORTATION IN AMERICA

I

MAN invented legs a long time ago — and for long they sufficed him. Until he had contracted the progressive disease of civilization, the problems of transit touched him not at all. Did he wish to go anywhere, well, ‘who was holding him?’ He had no dream of feeling abused that an electric go-devil was not in waiting to waft him five blocks. The locomotion God had given him was a pass over the whole system — and no trouble to get it renewed.

For every subsequent invention in land transit — with the sole exception of the horse, which made him a master and left him no less a man — he has had to pay more than the thing was worth. For very joy of life there is nothing motive like Shanks’s mare — and I have proved them all. Nor is there any other so enduring. When his fleetest mount could not come within lasso range, the old-time frontiersman caught the wild stallion by walking him down. Forty-four years ago I came afoot, in 143 days, 3507 round-about miles across the continent, where thousands had tramped more directly forty years before — and had, though in hardness, the time of my life.

In these degenerate days, that passes for a fair walk; but it was child’s play to such wanderings as

those (in 1528-36) of Cabeza de Vaca and his three comrades, over at least ten thousand miles. And they in turn were mere tenderfeet beside Andres Docampo and the Donados, Lucas and Sebastian, who trudged fully twenty thousand miles of the transcontinental wilderness in the nine years following their escape from Kansas in 1542.

But when man began to wish to take his impedimenta with him, or to fetch from afar the things he did not need — then, in very truth, his perplexities began. Fictitious Necessity bestrode and bitted him, and has never relaxed its spurs from his flanks. Since that time the lion's share of his ingenuity and energy has been spent to move something somewhere; until now he can hardly move himself without organized assistance.

We may be pardoned for seeing big the miracles that have been wrought under our own eyes — steam, electricity, aërial navigation, and their peers. But these are only parlor magic beside the fundamental discoveries. Since the world began, there have been, perhaps, but five economic inventors of the first degree — and you and I do not know the name, nor within a thousand miles of his geography, nor within a thousand years of his date, of any one of the chiefest four, and are shaky even as to the fifth.

It is significant that four of the five fundamental inventions have to do with transportation — and are, in fact, its very corner-stones. If railroad, telegraph, telephone, electric car, and automobile were to-morrow wiped off the slate of man, civilization would go on, tearful but undiminished. In a decade we should have learned to live and prosper and flatter ourselves, without them, even as our grand-

fathers did. Whereas, if fire, navigation, domesticated animals, wheels — the props left us by those four unidentified savages — were knocked from under us, all civilization would incontinently collapse to utter barbarism.

Any transportation beyond that of the personal burden seems always to have been solved first by way of water. In proof of this, it is enough to suggest that every American tribe which had waterways had devised means of navigation — including the carriage not only of the individual, but of his belongings — whereas only three groups in all aboriginal America had, at the Discovery, achieved transportation by land: the Northerners with their sledge-dogs, the Plains nomads with their pack-dogs, and the Incas with their llamas. Each of these methods was already an ancient traffic when Columbus sailed. The Eskimos and Labradorians had brought their complicated dog-teams down to a point practically as fine as that with which we are to-day familiar. The little camels of the Andes had been domesticated, differentiated, and organized in innumerable trains throughout that greatest upland in the world; and as for the Plains Indians, their system was fully as finished.

But from Labrador and Alaska to Peru is covering a good deal of geography to find the only three examples of primitive American land freighting. On the other hand, almost every tribe within this vast delimitation had some adequate water transportation — the birch canoes of the East; the kayaks of the North Pacific; the huge carved dugouts of the Northwest coast; the California bark-logs; the identical *balsas* of bound bulrushes in California and on the great Bolivian Lake; the catamarans and

piraguas; the *zangadas* or calabash rafts of the Mexican west coast rivers: the Nicaraguan *bongos*; rafts, floats, bullhide boats, and other devices to beat distance and carry baggage whithersoever the water nymphs had paved the laziest highway.

Nor need we altogether fall back on primitive man for this proof. Our own Western transportation had grown to enormous volume by water before it arrived at anything worthy of mention by wheel or pack-saddle — the enormous commerce of the Far West and Northwest of the fur-trading days; and on the Mississippi even earlier, as well as later; the fur-traders' canoes, with a two thousand-mile run; the Missouri keel-boats cordelled laboriously upstream, and dropping downstream asleep; the fifteen-ton Mackinaws; the two-and-a-half-ton bull-boats, the huge flatboats, and the final high-water steamer. One could take up such books as Dr. Coues's 'Lar-penteur' and Chittenden's 'History of the American Fur Trade of the Far West' for a scholarly picture of the days that, if now forgotten, were quite as important and quite as epochal as our own — and without which we should not to-day reach from ocean to ocean.

In our bigness it does not pay to despise the day of small things. Though they had centuries in place of decades in which to do it, there is some piquancy in remembering that, in the total history of transportation in America, more treasure has been carried on mules and on 'Peruvian sheep' — more even on men — than on railroads! The billion-dollar silver grists of Potosí, Bolivia (the first great bonanza in history; discovered in 1545), and of Cerro de Pasco, Peru, all came to the mill in 100-pound loads on the backs of the spiteful llama; and the equal treasures of Zaca-

tecas, the world's second bonanza, discovered in 1548, went forth on burros, or mules, a 150-pound or 300-pound *carga* at a time. Every dollar of these billions from the mines of Mexico, Peru, and Bolivia clambered from the bowels of the earth on the sturdy back of a miner — even as Humboldt, a century ago, found the peons of the Valenciana packing their 350-pound loads of ore up notched logs 500 feet to daylight.

If I have not sooner dubbed Mexico 'the land of the patient back,' it is never too late to do so. The *cargador* is as much an institution above ground as in the mines — and this is true, not only of Mexico, but of all the Spanish-American highlands. I have seen Indians carry two hundred pounds of produce twenty miles to market. I have seen them carry heavy people on a chair all day. In La Paz I watched and followed one short, barrel-built Serrano who 'toted' a piano six blocks, and did not stop until he set it down in the courtyard to which it was destined.

It hardly need be said, of course, to any athlete, that in carrying these terrific loads the Mexican or Peruvian Indian has more sense than our stevedores, and does not think to unionize his back and call 'scab!' to the stoutest muscle in the body. A broad strap over the forehead brings the neck into partnership with back and hands. This same economy seems to have been solved by natural man almost everywhere, and to have been forgotten only as common-sense is civilized out of us. There is no Indian mother, for instance, in any tribe I have ever known, so stupid as to carry her baby in the back-breaking way to which our blessed woman of to-day adheres — with a leverage against her that is enough to strain a much stronger spine.

This biped transportation early attracted the attention of the European invader. In his monumental 'Monarquía Indiana,' written in 1610, Torquemada says, with as much truth as quaintness: 'They lived by the travail of their hands and ate their bread with Sweat right plentie. For the Asse they drove was their proper Body, and they treated it as it merits, as the Holy Ghost saith . . . bearing their Burthen on their Pickaback, and the Staff in their hand. Whose Aliment was sundry dry Tortillas and a little cold Water. For they had neither Horse nor other Animal to bear it for them, save in Piru the sheep (Llamas, which were not sheep but small camels) and in the land of Cibola sundry big Dogges.'

Castañeda, member and crabbed chronicler of Coronado's great expedition, describes clearly enough the transportation he saw in use among the 'Querecho' and 'Teya' Indians of the buffalo plains in 1541: 'They go like Arabs, with their tents, and their droves of dogs harnessed with saddle-cloths, and pack-saddles, and a cinch. When their load shifts, the dogs howl for someone to straighten it for them.'

Benavides, in 1630, calling these Indians the 'Apaches Vaqueros,' or 'Buffalo Apaches,' says: 'I cannot refrain from mentioning something rather incredible and ridiculous, which is that when these Indians go off to trade the whole *rancherías* go, with their women and children. They live in tents made of these buffalo hides, very thin and tanned; and these tents they carry laden on pack-trains of dogs, harnessed with their pack-saddles. The dogs are medium-sized, and it is customary to have five-hundred dogs in one pack-train, one in front of an-

other; and thus the people carry their merchandise laden, which they barter for cotton cloth and other things they need.'

If you will ask your best-read neighbor to guess how many kinds of animals have been used for transportation in America, he will probably fall short of fifty per cent — for they number not less than eleven. As pack-animals we have the record of dogs, mules, burros, horses, oxen (the longest journey of pack-oxen being, probably, that of the Death Valley party of 1849-50; their wagons had to be deserted among the labyrinthine cañons of southwestern Utah, and they made the grisly journey to the coast, using their oxen as pack-beasts), llamas, Asiatic camels, and men. As draught-animals — dogs, burros, mules, cows, oxen, horses, buffaloes, Asiatic camels, white-tailed deer, reindeer (in the late lamented Klondike experiment), and elephants (in Barnum's serious experiments in ploughing and teaming in Connecticut, half a century ago). Furthermore, though it may not be generally known, ostriches have been ridden and driven in California, where there are several large farms of them.

The first horses that pawed the ground in North America (mainland) came with Cortés in 1519. There were sixteen horses of the captains, and five mares (and Bernal Diaz, the 'humanest' historian in all history, takes pains to specify the Gentle Sect): the sorrel mare of Pedro de Alvarado, Cortés's right hand; the silver-gray mares of Alonso Portocarrero, and Juan Velazquez de León, and Diego de Ordaz (the first man who climbed Popocatepetl), and the chestnut mare of Juan Sedeño, that had a colt on the way from Cuba.

In the times of the Conquest, some four centuries ago, everything was high — except money, which was worth only about three times what it is now. Gold and silver were the cheapest things out. Hernando Pizarro couldn't afford iron in Pachacamac, so he shod all his cavalry horses with silver — except a few that he shod with gold. And I have myself seen in Peru, only thirty years ago, not only four-by-six-foot mirror-frames of silver, but the huge try-kettles (which our grandmothers had of brass or copper), were made of sterling silver, half an inch thick, two feet deep, and three feet wide at the bulge.

As silver was the cheapest thing, horses were the most expensive. All, of course, came from Spain (there were no horses in the Western Hemisphere before the Conquest), and all were of that same blood which makes the wild mustang of the Southwest a marvel to the stranger, who is not aware that he is nothing on earth but an Arab barb, superficially degenerate by wildness and inbreeding.

In the early years of the Conquest, there were no horses for sale. When the estate of a dead *conquistador* had to be administered, his steed fetched \$4000, \$5000, or even \$6000; and for a considerable time the market never fell below 1000 pieces of eight. In one of the wars between Pizarro and Almagro, a cavalier who saw a negro slave leading a horse down the street, and fancied the horse (slaves being a mere 'boot'), offered the owner \$10,000 for the two 'as they stand' — and was politely refused.¹ Yet less than a century later the learned Jesuit historian Ovalle wrote: 'I have seen sold, in Chile, around Santiago, war-horses, well-broke, for the king's army, at two dollars.'

¹ Equivalent to \$30,000 now.



EARLY HORSE-TRAPPINGS IN CHILE

From Alfonso de Ovalle's 'Historica Relacion del Reyno de Chile,'
Rome, 1646

The increase of horses, cattle, and other domestic animals imported by the Spaniards to the New World was marvelous. The 'Gaceta de Mexico' for October, 1728, reports that in the month, around the city of Pueblo alone, there had been sold 16,000 mules, at \$10 per head, and 10,000 horses at 18, 20, and 24 reals — \$4.50 to \$6 each. In 1742, when Admiral Vernon threatened the Mexican coast, one *hacendado*, Don Fernando de la Campa, Conde de San Mateo de Valparaiso, offered 1000 saddled horses for the defense of Vera Cruz — and promised 50,000 more if needed!

The figures of this increase astounded the most experienced travelers; and some of the sharpest polemics in early American history were leveled by experts against European armchair historians who fancied that the horse, ox, and other beasts had deteriorated in America. The world certainly had never before seen any such multiplication. What it amounted to is indicated by the fact that vessels and whole fleets sailed for Spain, laden exclusively with the hides of cattle — already in 1587, Acosta noted the exportation of 109,794 hides, from Santo Domingo and Mexico alone, in one *flota*. The prices to which these animals fell are even more significant if we compare them with prices that ruled at the time of the Conquest. In 1780, good work-oxen could be bought in the City of Mexico at \$10 the yoke; and in Guadalajara for \$6. In Nueva Galicia a good horse could be had for \$2, and a mule for \$3 — and it was not uncommon to buy a *manada* of twenty-four mares with their stallion for \$25. In Chile, at the same time, one could buy a good trotter for \$1. After this, it seems almost gratuitous to remark that many Mexican gentlemen owned 50,000 head of cattle

and horses apiece, and some far more; or to recall the fact that one Mexican cavalier, Juan Orduna, about 1650, had on his *hacienda* in one year a crop of 36,000 calves.

Gentlemen and scholars wrote the histories then as now, and were concerned with polite things; but I hope some day to cut the trail of that son of nobody who brought to the New World its first mules and burros. For he merits the taller monument.

The Inca Garcilaso de la Vega — who was not only the Peruvian Prescott (being as readable and about as scientific as our chiefest of the romantic school of historians), but also the very first native American poet (his exquisite little volume of Virgilian verse, printed in Salamanca in 1581, is one of my treasures) — supplies the most flavorsome early note I remember as to the burro in America: 'The first Burro I ever saw was in the Jurisdiction of Cuzco [Peru], in the year a Thousand, Five Hundred and Fifty and Seven. It was bought in the city of Huamánca, and cost 480 Ducats. My father, Garcilaso de la Vega, had sent to buy it, to breed. In Spain it would not have been worth six ducats, for it was a played-out runt. Another was bought later by Gaspar de Sotelo, a man of noble family and native of Zamora, whom I knew, at 840 ducats. Since then they have been bred in great numbers for the pack-trains, and wear out fast, owing to the roughness of the roads.'

In the aggregate history of mankind, there has been vastly more transportation by pack-train than in any other land fashion; and as much is true even of this hemisphere. Here, it was not only the first freighting done by Europeans; it still holds good

¹ *Comentarios*, I, 327.

across all the changes of four centuries. Taking the Americas together, there are to this day more miles and more towns served by the pack-beast than by railroads — though, of course, nowhere near so many people. For an enormous area, where rails will never run, this primitive four-footed freight-train will doubtless persist for centuries longer.

America is the only country that ever stepped from the Stone Age to the Age of Steel, as it were between two days. There is no other region of the globe which, in aggregation of circumstances, was ever so revolutionized in its politics in a century as was the New World in a generation in the item of transportation alone — to say nothing of the scores of other changes no less radical.

When we remember that this half of the habitable globe, a little over four hundred years ago, had not a horse, ox, cow, mule, burro, sheep, goat, cat, or hen to its name; and that all the domestic animals that we value, except the dog, came upon it in an avalanche, and in an incredibly short time possessed it and became integrated with its daily life, we may realize that this, in itself, was an unparalleled change. That it was accompanied by equal subversions — religious, linguistic, educational, and commercial — is beside the present purpose. The Spanish introduction of the horse, mule, burro, and ox to America marked the longest stride that so many people, in so short time, have ever taken in the arts of transportation.

The first, the simplest, and the longest-enduring of all land-transportations employed by Europeans on this continent, the pack-train, is still the most interesting. With all respect to the bull-whacker, the stage-driver, and even the engineer, there is, perhaps, no

other motive art equal to that of the muleteer made perfect. An art it is; and if the life of the man whose frown makes a dark afternoon in Wall Street depended on his securing a load to the uppermost parts of a mule, his further continuance would not be worth the blank margin of a sheet of postage stamps. To any one who loves Art for Art's sake it is saddening to find how few, nowadays, within the confines of a contented nation, can tie the diamond hitch or untangle a twisted burro-train on the mountain trail.

Even with our own pioneers, the pack-train was the first medium: and in Spanish America its development was incomparably greater. There, pack-trains were not uncommon whose ordinary commercial route was fifteen hundred miles. Not to mention innumerable other special cases, Captain Anza's wonderful expedition from Sonora to San Francisco, California, in 1774, was far more than this distance; and Coronado's unprecedented inland tour, from 1540 to 1542, was at least three times as far.

The largest official pack-train in history was that organized for the siege of Granada, nearly four hundred fifty years ago, by a lady we all know a little of — and much too little. Isabel la Católica was no mere romantic young thing, school-girling her jewels to buy the way to the New World. Long before that, she had proved herself one of the greatest of queens both in war and in mercy. In April, 1486, when her third baby — Catalina, later the ill-fated Catherine, wife of Henry VIII of England — was four months old, she provided (for the final siege of the stronghold of the Moors) all the commissary for twelve thousand cavalry and forty thousand infantry. And to convey these provisions and the



AN ARMY TRAIN IN 1851 WITH STAMPEDE OF WILD HORSES
From an old woodcut

munitions of war she outfitted and maintained a pack-train of sixty thousand mules and burros — and incidentally a field-hospital lavishly provided with doctors, surgeons, apothecaries, and the remedies of the day.

The most competent pack-train in history, the smallest for the work it did, and the 'biggest for its size,' was that organized by General Crook in his first Arizona campaign, 1871-75; reaching its perfection, with the height of that unequaled Indian chase, under Old Tom Moore (the wiry and grizzled veteran whose sermon I shall never forget, to the text: 'Mules? *Mules?* Pardner, I want you to remember that *God made mules a-puppus!*'), as chief of transportation, and under such packers as 'Hank 'n' Yank,' Jim O'Neill, Jack Long, Long Jim Cook, Chileno John, José de León, Sam Wisser, Lauriano Gomez, and others of the best frontiersmen that ever pulled a diamond hitch. With the mountain-bred mules and burros seasoned by years of the toughest trails of America, but with the best care ever given an army's animals — that endless centipede, with the old Mulera (a white bell-mare) for the head, was, everything considered, the most absolutely competent military transport I have ever known either in the field or in the documents. I think it quite safe to say also that there is no record of any other operations of war or mining or commerce in which the same number of animals did so much hard work over so bad country, so economically and with so little deterioration. It was of a piece with all Crook's work — the most searching, the most personally conducted, and the least trumpeted campaign ever conducted on our frontier; or, so far as I can find, on any other.

The first great commercial highway in America,

and for more than three centuries incomparably the most important, was that romantic *calzada* or 'shod' mule-path from Vera Cruz to the City of Mexico. This is not forgetting the 'military roads' of the Incas, which the romantic historian (who never saw them) invariably compares with the great Roman highways — to which they are about as comparable as a Boston alley to Pennsylvania Avenue. They were extraordinary works for aborigines, and greatly facilitated the remarkable operations which distinguished the Incas as the only American Indians that ever made what can in sober language be called a military campaign; but they were merely improved trails for the passage of the llama, and while subject to much traffic, they had no commercial rating which we can count.

The Vera Cruz road (first laid out by Cortés in 1522, and improved in later years to the tune of \$3,000,000) was a more or less stone-paved highway nearly one hundred leagues long, from the seaboard to the capital, which, for three and a half centuries, was the largest city in all the Western Hemisphere; and over its rough meanderings, for that long span of time, pottered up and down a commerce so vast in value as to seem incredible to any 'American' generation except this present one. Down its declivity, from the Tierra Fría of the great plateau to the pestilential Tierra Caliente, toiled the enormous revenues to which the output of the bonanzas of Zacatecas, Guanajuato, and other great silver mines swelled the royal *quintas* (fifths); besides the vast riches of indigo, sugar, cochineal, sarsaparilla, and jalap from Mexico, the cacao of Peru and Ecuador, the copper of Coquimbo, and the silks and spices of China and the Philippines (from the 'Acapulco

ship'). There are reasonably well-known railroads in the United States which, to-day, do not haul as much value in freight in a year as yearly shuffled down the Vera Cruz *calzada* three hundred years ago; and, so late as 1824, Bullock notes seeing a thousand pack-mules in a single train loaded with silver — each mule carrying two thousand dollars.

Until the railroad from Mexico to Vera Cruz was finished (in 1873), the traffic was conducted almost entirely by pack-trains. Rates for freighting ranged from 26 cents to \$1.25 per ton per mile, or, for the journey, \$25 per mule — just a slight advantage over the figures which ruled in the packing days of our West! At the height of its activity the Vera Cruz Trail enjoyed a commerce of more than 50,000 tons a year — or 350,000 mule-loads. Wheeled vehicles were but little used, and only for passengers, the fare being on an average about \$50. The wheeled conveyance most in use was the *carroza*, a ponderous coach drawn by eight or nine mules, with two postilions. A more common conveyance, for those so worthless as to be unable to ride horseback, was the *littera* — a litter on shafts swung to the saddle of a mule in front and one behind. This litter was wide enough for two persons, and long enough to lie down in. *Carroza* and *littera* were also in use on the rougher and more dangerous trails from the capital to Acapulco as early, at least, as 1649. There were four chief stage-routes in early Mexico: that from Vera Cruz, via Puebla, to the capital, eight days; that from the capital to Chilpanzingo and Acapulco, ten days; that from Mexico to Oaxaca and Guatemala, about thirty days; and that from the capital to Durango, and north into New Mexico, time indefinite.

With so enormous a freight traffic as never trampled any other American highway (a century ago, the commerce of the Acapulco and Vera Cruz trails was \$64,000,000 a year), it is easy to comprehend — even without the particular statistics — something of the innumerable host of mules and the army of *arrieros* that made that stony pathway vociferous in the days of its glory. The *arriero* was, in early America, the corner-stone of commerce; and to this day in the vast portion of Spanish America away from the railroad lines, or radiating from them, he is hardly less indispensable.

A humble profession, it was one which had its ethics and its pride; and it was the most picturesquely dressed corps in America. I cannot recall the record of any *arriero* that ever robbed his employer; and every early American chronicler who came in contact with these trained muleteers was astonished, as well at their honor as at their proficiency. Nor were they without the dry wit which has never yet been known to fail their countrymen. The old days, alas, are nearly forgotten when every orthodox pack-mule wore a motto on the broad crupper which held the pack from preceding him downhill — just as every man's knife and belt, and every woman's shears, were humanized by some legend woven or engraved. As examples of these pack-mule mottoes, two may be given:

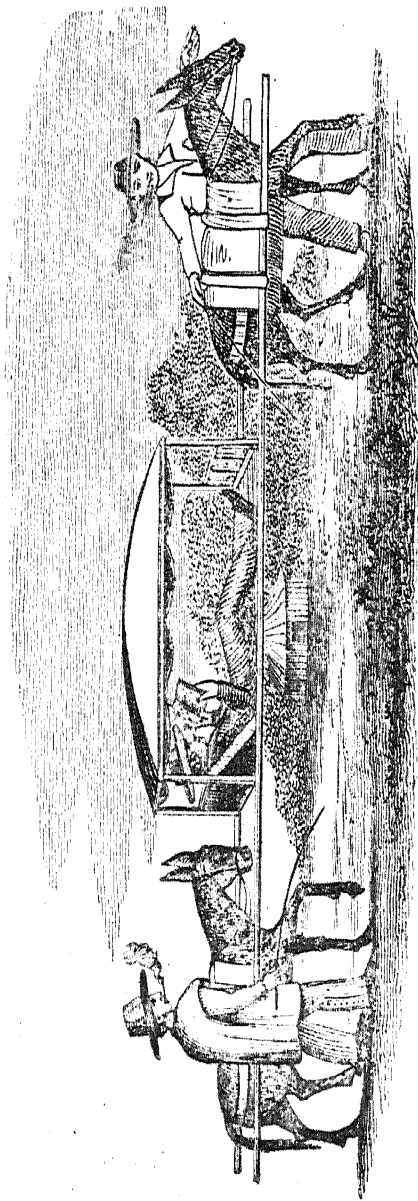
*Entre la mujer y el pulpero,
Que queda al arriero?*

Between women and wine,
What's left for the arriero?

*No hay tal cama
Como la de la enjalma.*

There's no bed like that of the pack-saddle.

can give you of it. It would create a sensation in Broadway, and is decidedly more picturesque and comfortable than a cab or an omnibus.



LITERA.

THE LITERA

From Brantz Mayer's 'Mexico as It Was and as It Is,' 1848

Next to the Vera Cruz *calzada* in the richness of its traffic, though far short of it in length, was the narrow trail between Panama and Portobello. Over this tangled path passed the treasures of Peru on their way to Spain, and the luxuries of Spain on their way to Peru — that is, such of each as escaped the gentlemanly attentions of the English heroes, whose only concern with the New World, for a century after its discovery, was in the rôle of pirates.

No wheels whatever traversed the Isthmus. Everything went mule-back or man-back. It would be too long to give the figures of the enormous treasure that crossed this peevish barrier between the oceans, during its long centuries as a highway; but when Dampier (that minor English pirate — and author, as nearly all these highwaymen of the seas were) busied himself with this locality, the transfer of bullion for the King's fifths averaged \$24,000,000 a year, besides the far greater export of money on account of the owners.¹ In actual tonnage, of course, neither the Panama nor the Vera Cruz Trail compared with our overland freight-routes of half a century ago; but they probably hold the record for value of freight, since only merchandise of high rating was transported — most of it valued, not by the ton, but by the pound or ounce. The necessities of life were neither imported nor exported in those days, but produced and consumed in the country. Precious metals and precious stuffs went out; silks and other luxuries came in; and it is not out of the way to presume that no other overland commerce in history has been worth so much per pound.

In its palmy days, the Vera Cruz Trail used seventy

¹ In the twelve years ending with 1791 there were shipped from Veracruz \$224,052,025 in coined silver dollars.

thousand mules a year! It need hardly be said that such an industry was, in itself, the making of cities. The chief reason for the extraordinary growth of Puebla — which had no equal in all American history (until the second Los Angeles loomed up within this generation) in the rapidity of its increase; beginning in 1531 with thirty-three settlers, and in 1678 having more citizens than New York City had in 1800 — was this huge overland traffic, a large part of which was tributary to that City of the Angels. Soon after the founding of Puebla, however, a town grew up on its outskirts — at the junction of the great roads to Vera Cruz, Oaxaca, and Guatemala — which took a remarkable preëminence. Few travelers stopped in it, as it was so close to the second city in all North America; and it is remarkably little known to print; but Ámoxoc merits fame as the city of the first, the longest continued, and the best blacksmithing in American history.

On this site had settled, in 1527, two Spaniards, one with a little store; the other, Pedro Jaime, with an anvil and forge. He was not the first blacksmith in the New World, but, so far as I recall, the first to set up a wayside smithy; and around him and his descendants nucleated a corps of Vulcans who not only shod that innumerable multitude of pack-beasts, but invented a handiwork that shames our modern jewelers. The best swords, *machetes*, knives, shears, bits, spurs, and other smithing of steel inlaid with silver and gold, the best in all the New World, came from these forges, though they were generally credited to Puebla. The temper of the Amozoc blades became as famous, in the New World, as that of Toledo; and after the handicraft of Eibar (Spain), there is no inlaying of precious metals upon steel so

quaintly beautiful as that of the old Spanish and Indian smiths of Ámozoc. To this day the little town — apparently not so large as it was a hundred and fifty years ago, when it contained 100 Spanish, and 586 Indian families — is a reproach to our ‘art workers’ in iron.

The first vehicles in the New World were two sticks — for while we have no record of the snow-country sledge earlier than the sledge form, it undoubtedly began even as did the grass-sledge of our own prairies — the *travois* (or *travaille*, and other forms), which was merely two poles attached first to the sides of a dog, and, since the conquest of America, to the sides of a horse, dragging on the ground behind, and coupled together at the rear with anything from a simple thong to the basket or hide receptacle.

This primitive conveyance — on which a light load could be moved faster than in an express wagon of our day — had a wide range of use, from the Great Lakes down into (at least occasionally) Texas. Its origin was Indian, but the rough-and-ready frontiersmen, who pioneered the West for us, found it a good thing and passed it along. Larpen-*teur*, that veteran of the fur territory, carried his babies in a *travois* a long journey, including the passage of a river in flood; and in the seventies, Lieutenant Yeaton, wounded by the Apaches in Texas, was carried four days over the snow in one. To-day the *travois* is dodo; but less, I think, on merit than because of that very human trait — imitation of our alleged betters. While it will not carry nearly so heavy a load as a Studebaker wagon, it will go twice as fast with the same horse, and over a thousand places where no wheels could turn.

It is fitting here to celebrate those indispensables of frontier transportation — rawhide and baling-wire. For two generations the latter (discarded from alfalfa or straw bales) has taken the place once filled by rawhide; but, without one or the other, wheeled transportation would not have lasted in New Mexico for ten years. Aside from the roughness of the trails, the unspeakable aridity of the climate desiccates everything; and a vehicle falls to pieces almost before its paint is dim. Rawhide and baling-wire 'held the territories together,' so far as transportation was concerned, for three centuries. Outside the city liveries and the few well-to-do Americans, you will find neither running-gear nor harness which does not owe a great proportion of its cohesion to these blessed ties.

Nor must I omit here a reference to the only wheeled vehicle, probably, ever built in North America which never had a nail or a scrap of iron about it — the old *carreta*. This was a rude ox-cart (too heavy for any other motive power). Its two wheels were made each of three pieces of cotton-wood logs, on a wooden axle without tires; its body and tongue of stakes hewn from the same soft timber. The date of its invention we do not know, but it runs back at least into the beginning of the seventeenth century. In the remoter parts of New Mexico, a good many were still in use in my time, and I have heard them two miles away shrieking down the road — for there was no axle grease, and wooden wheels on wooden journals, down-grade, give vent to a protest audible as far as any sound of which I know. The last one I ever saw in use was in the Indian pueblo of Laguna; and at last it disappeared from the scenes of its activity to crown some curio store.

There were all sorts of royal regulations as to the horse, mule, and other conveyances, aimed alike to foster the *cría* (breeding) of these animals in the New World and to prevent 'luxury.' A *cédula* of 1533, for instance, forbade any one who had a horse to ride upon a mule — save and excepting clergy of a Holy Order and persons under fourteen and over seventy. In the early days (1528) there was a royal ordinance whereby the selling of a horse to an Indian was a capital crime; and the same law forbade the use of mules, 'in order that more horses might be bred.'

Four or five centuries before our first overland mail couriers, there was a famous post-service in Peru — the *chasquis* or runners, who kept up rapid communication between all parts of the Inca 'Empire.' This courier service was established long before the discovery of the New World, and lasted for generations after the Conquest. The *chasquis* were stationed at every league and a half, and were expected to make fifty leagues every twenty-four hours, performing the functions not only of the primitive postman, but of a rude parcel-post. It is an historic fact that they brought fresh fish from the ocean one hundred leagues inland in a little over two days. They were an institution of the remarkable Inca polity, but were adopted and given official recognition by the Conquerors; and, so late as 1593, there was passed a law of the Indies that the *chasquis* should be paid regularly, and not delayed on any pretext whatever in their runs — a rather early enactment to forbid obstruction of the mails. No less remarkable, so far as speed and endurance are concerned, though not organized nor officially protected, were the Tarahumari couriers of northern Mexico and the Yumas of western Arizona, some of whose exploits,

even in my own time in the Territories, seem almost incredible.

II

The man who introduced wheels to the New World deserved to be canonized — and so indeed he came near to being, though not exactly for this reason. The Conquerors were too much cavaliers to require cushions; while for transportation, in a roadless, mountainous country, the pack-train was a good enough Morgan — and that breed of horse served a frontier. It is not remarkably stupid that for a long time no serious attention was paid to vehicles.

The first teamster who ever turned a wheel in America — and in fact introduced not only wheels but the driving of oxen — was that remarkable character Sebastian de Aparicio,¹ a Gallego of Spain, who came to the New World soon after the Conquest, and busied himself in driving ox-carts from Vera Cruz to the City of Mexico; later, from the capital to Zacatecas. He became a lay brother of the Franciscan minorites, settled in Puebla, was for a generation collector of alms for the convent there, and there died in the year 1600, aged ninety-eight. He was greatly beloved by even the wildest Indians, wrought many miracles, was beatified by the Pope, May 2, 1768, and later was adopted as patron saint of Puebla, where his bones rest.

It is not yet determined who first brought a carriage into the New World. In the first half of the sixteenth century there appear to have been none; the early settlers were men enough to 'hold down a horse.' The lazier fashion came in about 1560; and already by 1577, Philip II felt obliged to issue a royal

¹ See Chapter II, 'The Virginal Mule-Tamer.'

cédula forbidding his American subjects to ride in coaches, or even to own them, under penalty of confiscation of coach and animals, and a fine of five hundred dollars in gold.

In his 'Grandeza Mexicana' (1604), Balbuena tells tunefully of the luxuries of the capital; and among other things, that there were '*coches, carrozas, sillas y literas*.' But in a country where money was easier than it has ever been in any other land, and where luxuries multiplied as fast as millionaires have done in our own country since the Civil War, it did not take long for the fashion to spread. In 1621, the municipal authorities found it necessary to rebuke extravagance by forbidding any one to drive more than two mules to a carriage — saving only the archbishop, bishop, and noblemen — with the exception of those who were going out on a long journey. In 1625, the English traveler, Thomas Gage, declares that there were over fifteen thousand carriages in the City of Mexico; and while this was doubtless a tenderfoot exaggeration, there were evidently many. A century ago, Humboldt found five thousand mules employed in drawing coaches in that capital — where the first vehicles for hire were introduced in 1793. At the same time there were in the city of Havana no less than twenty-five hundred *volantes*.

The first wheeled vehicles that ever trundled within the limits of what is now the United States were the wagons which Juan de Oñate brought up from Zacatecas in 1596 with his half-million-dollar expedition to colonize New Mexico. We have no description of them; but they were Zacatecas-made carts, drawn by oxen. At any rate, they were the forerunners of a slow, semi-occasional schedule line

which was in operation for more than two centuries, over more than twice the length of our Santa Fé Trail, and through a far more difficult and dangerous country. The *carros del Rey* (King's wagons) ran from Mexico to Santa Fé, New Mexico, via Chihuahua and the upper Rio Grande, carrying mail and supplies, only about once every three years, in the early days, as Benavides pathetically notes. In 1629, we have an interesting record of them as far off the main highway as Zuñi (two hundred miles), in a beautiful entry on the 'Stone Autograph Album,' or 'Inscription Rock,' in western New Mexico. The then Governor and Captain-General, Francisco Manuel de Silva Nieto, recorded on the fair page of that noble cliff that he had 'effected the impossible, with the Wagons of our Lord the King, passing to Zuñi and carrying the Faith' — the Faith being the heroic Franciscan missionaries who made spiritual conquest of all the Southwest long before any English-speaking person had driven a wagon or built a church fifty miles inland on the face of the New World.

By the year Harvard College was founded, there were *carrozas* even in New Mexico, two thousand miles from tidewater.

The first overland commerce in *our* United States was that of the Santa Fé Trail, 1822 to 1843. Though a small thing compared to many of the Spanish-American freighting-routes, it was at least five times as long a commercial journey as our people had anywhere undertaken; and in danger and hardship was without earlier comparison in our history. This traffic across eight hundred miles of wilderness, to the capital of what was, until 1846, a province of Mexico, was at first exclusively by pack-train. The first

wagons — twenty-five of them, drawn by horses, and accompanied by a long array of pack-mules — made the journey in 1824. Oxen were first used in 1829, and so well acquitted themselves that thereafter they hauled about one half the total traffic.

The 'Trail' was a mere form of words at first; upon the springy sod of the prairie the infrequent caravan left no trace persistent; and successive trains merely pulled trigger for the loose horizon. But in 1834 the permanent ruts were cut, the caravan crossing in a particularly wet season. Thenceforward the Trail was really marked. Gregg, whose 'Commerce of the Prairies' (1834) is the classic of the Trail, made the trip in 1830 and seven times more, living nine years in New Mexico and Chihuahua. Few books have been written upon the Southwest so interesting and so reliable. The hostility of the Mexican Government and its New Mexican administration — which was a jewel of high protection (and, under Armijo, charged a duty of \$500 per wagon, large or small, no matter what the load); the constant attacks of the Indians, who had been deviled into retaliation; brutal piracies by Texas adventurers, and other handicaps, economic and political, brought to an end in 1843 the remarkable episode of the Santa Fé Trail. A very few years later, California and Oregon became the goal; and though the Trail was still much used in the traffic, it was a mere reach on the great overland routes.

At its own height it was an important commercial adventure, without precedent in our annals. From about \$15,000 on pack-animals in 1822, and \$35,000 in 26 wagons in 1824, the trade grew to nearly half a million in its last year, and employed 230 wagons. A large proportion of the merchandise, after the first

few years, went on from Santa Fé to Chihuahua, often under the same 'conduct'; and the trade was shared by many adventurous Mexican and New Mexican *hacendados*, who ran their caravans to St. Louis.

Commissioner Bartlett, of the United States and Mexican Boundary Survey of 1850-53, gives in his ponderous 'Personal Narrative' a very accurate note on the freighting industry between Chihuahua and St. Louis, as he found it. The Chihuahua merchant went in the fall to New York, via New Orleans. This journey took forty to fifty days. He sent his goods either to Indianola, Texas (to come by pack-train from the Gulf to San Antonio), or by water from St. Louis to Independence, Missouri. Then he had to outfit wagons with animals and men for the long, dangerous journey. The large Missouri wagons cost then \$200 each; mules, \$100 each; harness, \$100 per wagon; water-kegs and extras, \$25 per wagon. These wagons required 10 mules each. So the initial cost was something like \$1300 per wagon; or, for a train of 20 wagons — which was about as small as the insecurity of the country permitted — \$26,000. Add 20 extra mules for 'in case of accident,' a wagon-master at \$100 per month, and a driver for each wagon at \$25, besides herders, etc. So a Chihuahua 'train' stood for some \$29,000 at the end of the first month. What with the vast distances, the unbridged and treacherous rivers, and the quenchless Apache, the merchant was deemed lucky if he got home to Chihuahua undespoiled within ten months. This seems a bit expensive; but it is child's play to what came true on the Trail within a decade. Still, Bartlett is justified in remarking, 'It cannot be expected that a merchant will be content with small profits after such an expe-

dition.' Nor was he. Even since railroads had mostly spanned the desert, I remember the purchase of a paper of needles by a Spanish lady from one of the old post-traders.

'A dollar for so few needles? Señor, it seems to me much.'

'But, madam, *the freight!*'

The ox-caravans of the Trail made twelve to fifteen miles a day, outbound and laden; and an average of twenty miles returning 'light.' The men were paid one dollar per day and feed. With fit care, the oxen made two thousand miles between April and November. There was red toll on the Santa Fé Trail after it became commercial; for it was peaceful until it began to be traversed by the sort of American that shot at an Indian as at a jackrabbit, for fun; the genial Galahads who had vowed if they ever saw a 'redskin' to skin him alive — and kept their word. This is no metaphor. It is history. It is also history that until this sort of tenderfoot began Indian-baiting, a sole, unarmed man was as safe to walk from Boston to the Pacific as Lewis and Clark were in 1804-06.

The scattering overland migration — to Oregon and California — beginning so early as 1846, became a never-paralleled tide by the spring of 1849 when the gold rush was really on. In all the chronicles of mankind there is nothing else like this translation of humanity across an unconquered wilderness.

In its pathless distances, its inevitable hardships, and its frequent savage perils, reckoned with the character of the men, women, and children concerned, it stands alone. The era was one of national hard times; and not only the professional failure, but ministers, doctors, lawyers, merchants, and farmers, with their families, caught the new yellow fever, and

betook themselves to a journey fifty times as long and hard as the average of them had ever taken before. Powder, lead, foodstuffs, household goods, wives, sisters, mothers, and babies rode in the Osnaburg-sheeted prairie schooners, or whatsoever wheeled conveyance the emigrant could secure, up from ancient top-buggies to new Conestogas, while the men rode their horses or mules, or trudged beside the caravans. An historic party of five Frenchmen pushed a hand-wagon from the Missouri to the Coast; and one man trundled his possessions in a wheelbarrow. At its best, it was an itinerary untranslatable to the present generation; at its worst, with Indian massacres, thirst, snows, 'tenderfootedness,' and disease, it was one of the ghastliest highways in history. The worst ordeal was that of the Donner party, snowed in from November to March, 1849-50, in the Sierra Nevada.

In the fifties the Asiatic cholera crawled in upon the Plains, and like a gray wolf followed the wagon-trains from the 'River' to the Rockies. In the height of the migration, from 4000 to 5000 immigrants died of this pestilence; and if there was a half-mile which the Indians had failed to punctuate with a grave, the cholera took care to remedy the omission.

The 2000-mile trip was a matter of four months when least, and of six with bad luck. Children were born and people died; worried greenhorns quarreled and killed one another — and the train straggled on. Up on the headwaters of the Platte one probably could find, even now, the crumbling remnants of a little cottonwood scaffold and of 'her rocking-chair' which was left upon it to mark the grave of a mother who gave up life there to the birth of a child later not unknown in the history of California.

On the southern route — through New Mexico and Arizona — Commissioner Bartlett took cognizance of 100 deserted wagons. Already in the summer of 1849, 1500 wagons, bound for 'Californy,' crossed the Missouri at St. Joe alone in six weeks. In 1850, Kirkpatrick counted 459 west-bound teams in nine miles.

As type of a large caravan of immigrants, we may take that whose chairman was Edwin Bryant, later Alcalde of San Francisco, and author of the standard book 'What I Saw in California' (New York, 1848). They left Independence, Missouri, April 18, 1846, and reached Sutter's Fort, California, September 1, having made 2091 miles overland. The outfit at the start included:

Wagons.....	63	Guns.....	144
Oxen, about.....	700	Pistols.....	94
Horses, about.....	150	Powder, pounds.....	1,065
Men.....	119	Lead, pounds.....	2,557
Women.....	59	Breadstuffs, pounds...	58,484
Children.....	110	Bacon, pounds.....	38,080

Our through traffic across the Plains was first organized by reason of the mails. There was already a population of thousands of Americans in California — and not the ordinary flotsam of a frontier, but people of education and of family, who 'had' to hear from home. The first mail route west of the Missouri was a monthly stage line from Independence to Salt Lake, 1200 miles. Its first trip began July 1, 1850, and its continuance was four years. In 1854, the Government paid \$80,000 per annum for a monthly mail-stage from Missouri, via Albuquerque, to Stockton, California. It was one of the mis-cues of the Border — during the nine months it ran, its receipts were \$1255. Thus early, as well as later,

there were many serious interruptions in the service. The Eastern mails for November, 1850, reached California in March, 1851; and the news of the creation of Utah Territory by Congress in September, 1850, arrived at Salt Lake the following January — having gone via Panama by steamer to San Francisco, and thence East by private messenger.

In 1756, it took our great-great-grandfather three days to stage it from New York to Philadelphia; and under Washington's administration, two six-horse coaches carried all the passenger traffic between New York and Boston, six days each way. It was a long step from this to the overland travel of half a century later. The first great transcontinental stage-line — and probably the longest continuous run ever operated — was the Butterfield Southern Overland Mail. Its route was 2759 miles, from St. Louis to San Francisco, bending far south, via El Paso, Yuma, and Los Angeles, to avoid the snows of the Rockies. For this tremendous distance, its schedule time was at first 25 and then 23 days; its record run, 21 days.

Its first coaches started simultaneously from St. Louis and San Francisco, September 15, 1858, and each was greeted by a mighty ovation at the end. The equipment consisted of more than 100 Concord coaches, 1000 horses, 500 mules, and 750 men, including 150 drivers; through fare, \$100 gold; letters, ten cents per half-ounce. It began as a semi-weekly stage, but was soon promoted to six times a week. The deadly deserts through which nearly half its route lay, the sand-storm, the mirage, the hell of thirst, the dangerous Indian tribes, and its vast length — forty per cent greater than that of any other stage-line in our national story — made it a monumental under-

taking; and the name of John Butterfield deserves to be remembered among those Americans who helped to win the West. This Southern Overland Mail was operated till the Civil War 'impossibilitated' mail-carrying so far south, and the Overland had to be transferred to a shorter northern route, where it took its chances with the snows. The first daily Overland stage on the Central line left St. Joe and Placerville simultaneously July 1, 1861; and each finished its 2000-mile trip on the 18th.

There have never been compiled even approximate statistics of the overland travel and freighting from 1846 to 1869; nor would it be possible to list the vast throng of emigrants that crossed the Plains. Roughly speaking, 42,000 people did it in 1849 alone. There is no tally of the freighting enterprises which sprang up on the heels of this vast migration, and grew to proportions nowadays incredible. By the sixties, 500 heavily laden wagons sometimes passed Fort Kearny in a day. In six weeks, in 1865, 6000 wagons, each with from one to four tons of freight, passed that point. At about this time, also, express messenger Frank A. Root — whose book 'The Overland Stage to California' deserves to be better known — counted, in one day's ride, 888 west-bound wagons, drawn by 10,650 oxen, horses, and mules, between Fort Kearny and old Julesburg. A curious connotation as to the relative speed of the Overland stage and the Overland freighting is the fact that Root, starting from Atchison one day, spoke to a bull-whacker just 'pulling his freight' in the same direction; got to Denver; doubled back — meeting his friend somewhat advanced — and so on; finally bespeaking him as he trundled into Denver. Root had made the single trip five times (3265 miles)

with eighteen days' lay-over, while the freighter was covering the 653-mile road once.

The height of this freighting was the decade 1859 to 1869; its climax from 1863 to 1866. The floating population then of the Western Plains was nearly 250,000. In 1865, over 21,000,000 pounds of freight were shipped from Atchison alone, requiring 4917 wagons and 6164 mules, 27,685 oxen, and 1256 men. That is more oxen than there are to-day in the States of Maine, New Hampshire, and Vermont; and more mules than the Census of 1900 gives all New England, New York State, Utah, and the District of Columbia. And this was but a drop in the bucket. The firms engaged were many; their men an army; their 'cattle' a host. One firm alone — the greatest, but only one of a multitude — Russell, Majors and Waddell, at top-notch employed 6250 big wagons and 75,000 oxen. The Twelfth Census fails to give statistics of working oxen — perhaps this mode of transport has so fallen off in the decade since 1890 (when it was itemized) as no longer to be reckoned important; but probably there are not to-day so many oxen working in the United States as this one firm used half a century ago. This may give some faint idea of the mighty traffic whose wheels wrinkled the face of the Far West, and the smoke of whose dusty torments 'ascended up forever,' and reddened the prairie sunsets for a generation.

The standard organization of such a train was twenty-five of the huge, long-g geared prairie schooners flaring from the bottom upward, and sometimes seventeen feet long, with six feet depth of hold and a capacity of from 5000 to 16,000 pounds each; and each with six to twelve yoke of oxen. The men of the outfit were thirty-one — a captain or wagon-master,

his assistant, a night-herder, the 'cavvyard' driver (who had charge of the spare riding horses; a Plains corruption of the Spanish *caballada*), and a driver to each wagon. The ox-drivers were universally known as 'bull-whackers,' and their beasts as 'bull teams.' The Jehus who had long-eared 'critters' instead of horned ones were 'mule-skinners.' 'Trailers' did not come in until after 1859.

At high tide, the investment reached a figure beside which the earlier Chihuahua trains seem tuppenny. The huge Conestoga or Pittsburgh or Pennsylvania wagons cost \$800 to \$1500 each; first-class mules (and no other sort would do), \$500 to \$1000 a pair; harness \$300 to \$600 to the ten-mule team — a total of \$2600 to \$7100 per wagon, besides salaries, provisions, and incidentals. In other words, a first-class freighting outfit on the Plains, half a century ago, cost as much as an *up-to-date vestibuled passenger train of to-day*.

The largest train ever organized on the Plains was that of General Custer, in his 1868 campaign. He had over 800 six-mule wagons — a single file four miles long.

The establishment of regular freight caravans from the Missouri River westward greatly reduced the cost of transportation and vastly developed business and immigration. In the days of pack-trains it was — and still is, where that institution survives in the remotenesses of the West — no uncommon thing to pay one dollar per pound per one hundred miles, or twenty dollars per ton per mile. There have been irregular tariffs much in excess of this, but this was common. Nowadays it costs a railroad, even on the mountainous grades of the Far West, only about seven eighths of a cent per ton per mile to haul its

freights. The tariff of the Overland freighters, between Atchison and Denver (620 miles), averaged about as follows:

Flour.....	9 cents per pound
Sugar	13½
Bacon and dry goods.....	15
Whiskey	18
Glass	19½
Trunks	25
Furniture	31

And so on. Everything went by the pound. The above trip took twenty-one days for wagons drawn by horses or mules, five weeks for ox-teams.

The world's record for organized and schedule riding was made by the Pony Express. Never before nor since has mail been carried so fast, so far, and so long, merely by horse-power; and if I am not in error, never elsewhere have horses been so steadfastly spurred in any regular service. The Pony Express carried mail between the East and California (at five dollars per half-ounce) for about two years. It ran from Independence to San Francisco, 1950 miles. Its time was ten days, and it never needed eleven. It employed 500 of the fastest horses that could be found — of course all Western horses — 200 station-keepers and 80 riders. It had 190 stations, crowded down the throat of the wilderness, 65 to 100 miles (or even more) apart, according as water chanced. The rider was allowed two minutes to change horses and mails at a station. The first starter from the California end was Harry Roff, who left Sacramento April 23, 1860. He made the first twenty miles, with one change, in fifty-nine minutes. 'Boston' relieved him at the foot of the Sierra Nevada; and was in turn 'spelled' at Friday Station by

Sam Hamilton. The first section, 185 miles (including the crossing of the Sierra, with thirty-five feet of snow), was done in fifteen hours and twenty minutes — the summit drifts being trampled by a big train of mules. Thence the relays were 'Pony Bob,' Jay Kelley, H. Richardson, and George Thacher. On the same day and hour that Roff left Sacramento, Johnnie Frey started from St. Joe with the west-bound mail, and it went through in the same time.

William F. Cody, Buffalo Bill, was the most famous of the Pony Express riders — and as a fourteen-year-old 'kid' got his first job from the man that invented the Pony Express. Cody made the record here — a round-trip ride (necessitated by the killing of his relief) of 384 miles without stops, except to change horses and to swallow one hasty meal.

Quite as heroic a rider, if less famous, was 'Pony Bob' (Robert H. Haslam). His score was a 380-mile ride on end — through a region of Indians on the warpath, who had killed the next man. Haslam, after the telegraph gave quietus to the Pony Express, was for over a year Wells-Fargo messenger, making a 100-mile round trip every twenty-four hours (time on the road, ten hours). Then for six months he ran from Reno to Virginia City every day, doing the twenty-three miles in one hour, using fifteen horses. Later, he drove a stage from Denver to Salt Lake (720 miles). After the era passed when there was room for heroes, he became a business man — and a successful one, I understand.

Another of the Pony Express riders, Jack Keetley, made a run of 340 miles in thirty-one hours; and another, Jim Moore, rode 280 miles in fourteen hours and forty-six minutes!

Such men got \$100 to \$125 per month and 'found.'

Their mail was limited to fifteen pounds. Postage was five dollars per half-ounce for some time; then the Government ordered it cut down to one dollar per half-ounce, at which figure it stayed till the completion of the overland telegraph to San Francisco (October 22, 1861) ended the life of this gallant enterprise.

All papers for the Coast were printed on tissue paper, and sent in letter envelopes at letter postage. The Government postage was additional. Messenger Root mentions one letter he handled which had on it twenty-five Pony Express stamps (of one dollar each) and twenty-five United States ten-cent stamps. It was the proud record of the Pony Express that in all its dangerous achievement it lost but one mail. Another came near to doubling the list; the rider was waylaid by Indians and scalped; but the frontier-bred pony broke away and came clattering in to the next home station, wounded, but with the mail-pouch safe at the saddle-horn — and the letters to California went forward on time, while back on the desert a brave carrier stiffened in his blood.

The quickest time ever made across the continent, before the Pony Express, was twenty-one days by the Butterfield stage-line, its schedule for mail from New York to San Francisco being twenty-three days.¹ The Pony Express more than cut this in half. Not only did it never once fail to span the transcontinental desert in ten days; it more than once surpassed any other courier record in history.

Buchanan's last Presidential Message was carried by it from St. Joe to Sacramento, 2000 miles, in eight days and some hours;² and the news of Lincoln's elec-

¹ Mails came as far west as the Missouri by rail.

² 'Pony Bob' made the last 120 miles in eight hours and ten minutes.

tion to Denver (665 miles) in two days, twenty-one hours. It whisked Lincoln's Inaugural across the 2000-mile gap in the Nation's continuity in seven days and seventeen hours. I believe this latter is still the world's record for dispatch by means of men. As for steam, I myself have known when a railroad train could not reliably cross the continent as swiftly as did the best of the Centaur-Mercuries organized by that typical frontiersman Aleck Majors, who died not many years ago — the Kentucky Christian who never drank, never swore, and made his mule-skinners sign a contract not to drink, nor gamble, nor swear, under penalty of being fired without the pay that was coming.¹ Is it strange if one who knew Majors and many of the men he found, and of the boys he made men, upon recurring to a present-day American city with its content-in-littleness, finds that the only thing he can say is — Nothing?

Majors also organized and ran the Merchants' Express; and enormous as was all the transcontinental traffic by bull-team in the decades from 1846 to 1869, this was the largest commercial transportation ever organized under one administration, for a comparable period, for such distances, and over such country.

In his young manhood Majors made the 'broad-horn' record on the Santa Fé Trail — a round-trip with oxen in ninety-two days. Later, he took up Government contracts, and in 1858, aside from other activities, was using over 3500 large wagons merely to transport Government supplies into Utah, employing there 4000 men, 1000 mules, and more than 40,000 oxen.

Majors was also one of the two stage-line kings.

¹ See his book, *Seventy Years on the Frontier*, Chicago, 1893.

For debt, folly of his partners, or other reasons alien to his choice, in his own despite he became responsible head of more miles and harder miles, more animals and less 'gentled' ones, more Concord coaches and more 'king whips,' than any man before or since, save only Ben Holladay. Between Leavenworth and Denver, Majors had 1000 mules and 50 coaches. The first of these 'hoss-power Pullmans' reached Denver May 17, 1859 — six days for the 665-mile journey. Horace Greeley, Henry Villard, and Albert D. Richardson were passengers. The Hockaday and Liggett stage-line from St. Joe to Salt Lake had (in 1858) frittered twenty-two days in its semi-monthly trips. Majors cut the 1200-mile run to ten days, with a coach each way daily. The stage from Denver to Salt Lake had a run of over 600 miles without a single town, hamlet, or house on the way.

By 1859 there were no less than six mail-routes to California (counting the Panama steamer) — but Ben Holladay was king. No other one man, anywhere, has owned and managed a transportation system at once so vast and so difficult. He had sixteen first-class passenger steamers, plying the Pacific from San Francisco to Oregon, Panama, Japan, and China. At the height of his Overland business he operated nearly 5000 miles of daily mail-stages, with about 500 coaches and express wagons, 500 freight wagons, 5000 horses and mules, and a host of oxen.

On the main line he used 2750 horses and mules, and 100 Concord coaches. It cost \$55,000 for the harness; the feed bill was a million dollars a year. To equip and run this line for the first twelve months cost \$2,425,000. The Government paid Holladay a million a year in mail contracts. In 1864, grain was worth twenty-five cents a pound, along the line, and

hay up to \$125 a ton. In one day Dave Street contracted, at St. Louis, for seven Missouri River steamers to load with corn for the Overland's army of mules and horses.

Holladay — whose whole career reads like fiction — was the Overland Napoleon for about five years, beginning in December, 1861. The Indian depredations of 1864-66 greatly crippled his stage-line, nearly all the stations for 400 miles being burned, his stock stolen, and his men killed. The loss was upward of half a million. In November, 1866, he sold out the Overland stages to Wells, Fargo and Company, in whose hands the romantic enterprise continued till the railroads drove Romance off the Plains forever.

Few armies have ever had so high a percentage of personal encounter as the men of Wells-Fargo (as it is universally known in the West). It not only covered more ground than any other carrier; it was the inventor of the shotgun messenger, and the only express company by which wives and babies were ever waybilled two thousand miles through a country of hostile Indians. No other company has transported so much treasure; and its reports are as indispensable to the student of mining statistics as those of the Director of the Mint.

The record trips of the Overland stage were made with Holladay as passenger. They probably surpassed any other recorded staging. In his famous ride from Salt Lake to Atchison (the schedule being eleven days), he covered the 1200 miles in eight days and six hours. From Placerville, California, to Atchison, 1913 miles (schedule, seventeen days), Holladay once made it in twelve days and two hours. It cost him over \$20,000 in wear-and-tear to animals and rolling-stock, but it electrified the country, and

promptly extracted from Congress the desired increase in appropriations for the Overland Mail.

Considering the great cost of supplies, and the far greater cost of hauling them to the lonely stations in a thirsty wilderness, the lack of roads, the dangers and hardships, the rates of overland travel were not high. Certainly the Butterfield fare of \$100 for 2759 miles would be cheap for a railroad to-day. Nor was Holladay's tariff of \$225 from Atchison to Placerville excessive in 1863. Before the close of the war, prices went jumping; and the fare from Atchison to Denver (620 miles) rose to \$175. It once reached \$350, or 54 cents a mile — meals extra. The regular tariff for express for the same run was \$1 per pound.

At one time during the war, the fare from Atchison to Placerville was \$600, with a baggage allowance of 25 pounds; all excess baggage, \$1 per pound. Even this seems mild compared to some of the fares paid in the first rush to California via the Isthmus. In January, 1849, when the steamer *California* made her first trip, \$1000 was paid for one steerage passage from Panama to San Francisco; and, for a time, \$600 was a common price for the same trip.

The era of the Overland stage from the River to the Coast was about eight years, beginning with the fall of 1858. It was an *Iliad* worthy of its Homer. In difficulties, hardships, dangers, and relative dispatch, no other large scheme of passenger transportation in human history has matched it. In 1855, Schuyler Colfax, Samuel Bowles (of the 'Springfield Republican'), and Albert D. Richardson made the trip from Atchison to Denver, 653 miles, in four and a half days; from Salt Lake City to Virginia City, 575 miles, in seventy-two hours; and the 72-mile stretch into Placerville, California, in seven hours, including

stops. The people who grumble at three days in a Pullman — I wish them well!

It took *men* to run, and *men* to journey in, the stages of that generation. The messengers in charge of express and mail on the main line of the Overland had a steady run of six days and nights without taking off their clothes. As for the drivers, there is no question that they were, as a class, the best whips in history. Hank Monk (whom Horace Greeley made famous), 'Keno' Armstrong, Jack Gilmer, Billy Opdike, Enoch Cummings, and others — those were the mightiest Jehus that ever pushed on the reins, or 'sent 'em down' the Rockies or the Sierra Nevada. They were generic heroes of the song not yet quite forgotten when I was young, 'The High Salary Driver of the Denver City Line.' So far as I am aware, the record single run was that made by 'Keno' Armstrong, who drove 610 miles in 119 hours without sleep, straight-away.

Structurally, there were no roads for this wonderful staging. The old Concords pounded across the prairie sward, forded rivers, climbed mountains, and pitched down them again, more by the grace of God than by any favor of a turnpike. It was only in the last staging days that serious attention was paid to the road-bed. But it is a trifle startling to recall that in the flush days of Virginia City the Pioneer stage-road across the Sierra Nevada — a California institution and one of the best highways ever built anywhere — was rolled and sprinkled every day!

The almost universal rolling-stock of the Plains staging was that workmanlike affair, probably the most famous of vehicles, the Concord. It is a little curious to remember that the conveyance of the far prairies was built in Concord, New Hampshire,

where the industry was established in 1813. If ever there were competent American mechanics, they were the men of the Abbott-Downing Company; and they were fortunate enough to live before there was any walking delegate to fine them fifty dollars for daring to work better than the lubberliest loafer in the union. The characteristic invention of the Concord coach and stage was that instead of steel springs they were swung on thorough-braces; a simple device which made the easiest-riding overland carriages ever invented.¹ The ordinary Concord carried nine passengers inside, and one or two with the driver.² The first that were built for the overland traffic were shipped around the Horn to California, 19,000 miles. As long as staging continued of any importance in the West, so long the original Concord maintained its supremacy. In all that tremendous competition, nothing was invented — nor has anything yet been invented — to surpass it. Not only on our own prairies, but in Canada, Mexico, Africa, and every other quarter of the globe, it has ranked first. It was the first passenger vehicle that ever crossed from the Missouri to the Rockies; and the last stage of all the Overland line, which ran into Denver, as did the first one, was a Concord.

Everything considered, one of the most remarkable horseback achievements of record was John C. Frémont's 840-mile ride from Los Angeles to Monterey and back, March 22-29, 1847. The Pathfinder was no tenderfoot; indeed, his three overland expeditions (1842, 1843-44, and 1845), in which he fully

¹ The thorough-braces were stout leather straps attached to C springs front and rear, on which the body of the vehicle is suspended.

² Well ahead of that classic British convention, "The Derby Dilly, carrying three insides."

shared the hardships of his scouts, make a record no American explorer before or since has rivaled; and the slender young colonel (who had now saved California to the Union, in despite of the Websters) was wiry and tireless as his 'pardners' Kit Carson and Godey.

Summoned by courier the night of the 21st, Colonel Frémont left Los Angeles at daybreak the morning of the 22d, accompanied by Don Jesús Pico (a California friend), and Jake Dodson, his servant. They had three extra horses each, driving the nine spares ahead, and lassoing them when needed. That day they made 125 miles; next day, 135, to San Luis Obispo. Detained here by business next morning, they did not get away till eleven o'clock, taking fresh horses; but it was seventy miles, and dark, before they camped. That night their horses were stampered by grizzlies — in the same locality where, in 1846, Frémont's party (then thirty-five men) killed twelve grizzly bears in one round-up — again, perhaps the record.

Next day having gathered their horses, they wound up the ninety miles to Monterey, arriving 'three hours to set of sun.' Twenty-three hours later, Frémont concluded his mission; and he made forty miles homeward before camping. Next day, he rode 120 miles — ninety of them on the same horse that had carried him forty miles the night before, that gallant steed making the last thirty miles of the day riderless, but at the front of the procession, and coming into San Luis head and tail up. Held here half a day by a violent storm, they left San Luis at noon, on their original horses, and covered the 135- and 125-mile stages to Los Angeles in the same time as on the up-trip. Eight hundred and forty miles through

a wild and half-pacified country, over mountain ranges where, the Christmas before, more than one hundred horses of Frémont's battalion perished in one storm; with only one relay of fresh horses, no feed except a little barley at Monterey and the wild grasses, and only seventy-six hours actually on the road — no one who has not, himself, scored his one hundred horseback miles across the wilderness at a lick can even guess what that means.

In the pastoral days of California there were here the best Caucasian horsemen the world has ever seen. The Spanish Californians lived in the saddle, and the lasso was their right hand. There are authentic cases in which a solitary horseman has roped a grizzly, wound it up around a tree, and killed it with his knife. The recognized etiquette for traveling a hundred miles was to take ten horses and a *vaquero*, twenty miles to the relay, and all at a lope, or what our earlier experts called a hand-gallop.

The most wonderful straight-away ride ever made by man was the gallop of Francis Xavier Aubrey, *ci-devant* Canadian *voyageur*, and a famous Pony Express rider, from Santa Fé, New Mexico, to Independence, Missouri, in 1853 — eight hundred miles in five days and thirteen hours. In 1852 he had covered the same distance in a little over eight days; and his record was on the wager of one thousand dollars that he could do it in an even eight. In the whole distance he did not stop to rest, and he changed horses only with every one hundred or two hundred miles. He was a stocky French-Canadian, light-hearted, genial, adventurous, and absolutely fearless. For some time he was an Overland freighter; and he also made the enormously difficult and dangerous drive of a flock of sheep from New Mexico to Cali-

fornia, across the deserts of the Colorado. He was killed in Santa Fé.

It will be news to most people that the 'ship of the desert' was ever used by the Government of the United States in the conduct of its business. To Lieutenant (later General) Edward F. Beale seem to belong the earlier honors of the 'invention.' Beale persuaded Jefferson Davis (then Secretary of War) of the utility of camels for the Southwest. In 1852, Davis asked Congress, in his annual report, for an appropriation to purchase camels for use of the War Department on the desert; in March, 1853, a bill appropriating \$30,000 was signed by the President. Major Henry C. Wayne was sent to Arabia and Egypt and bought seventy-three camels at prices ranging from \$15 to \$1000. The animals reached Indianola, Texas, by the storeships Supply and Suwanee in May, 1856, and January, 1857, and were moved inland slowly, carrying loads up to 1200 pounds each. Some remained in Texas, and about thirty got as far as Fort Bowie, Arizona, and thence to Los Angeles and Fort Tejón. Several Oriental drivers were imported with them; 'Greek George' and 'Hijolly' became characters of the Southwestern frontier. The latter was murdered in New Mexico; but Greek George lived near Los Angeles until a few years ago.

The camels were used in various capacities during the time of the Overland stages, but never earned their salt. They were too much of the tenderfoot type for the rocky Southwestern trails, and some of them — God save the proverb — died of *thirst*! They were more trouble in the isolated frontier garrison than a woman. Horses and mules had an uncontrollable terror of them; packers and soldiers de-

tested them; and their cumbrous apparatus made them economically impossible. About 1865 they were turned loose — in Arizona some forty-four of them — and left to ‘hump the desert’ according to their own devices.¹ Some may still lurk in the fastnesses of the lower Colorado. Within a few years I have known one to be killed in Arizona by an enraged prospector whose burros it had stampeded; and among Indians, Mexicans, prospectors, and other myth-makers of the Border, there are many tales of Wandering Jew camels. So late as 1877, a party of Frenchmen gathered up twenty of the vagrants, broke them anew, and took them to Nevada; but here again they were a failure, as also in an experiment in Sonora.²

The same plan had been tested as vainly in Spanish America three centuries before Jefferson Davis’s time. The first importer of camels to the New World was Juan de Reinaga, of Bilbao. He brought six females and a male, for which Pedro Portocarrero, of Truxillo, paid him 8400 ducats. They were as little a success on the deserts of Peru as later on the deserts of the Gila. Acosta, in 1590, mentions seeing them; and Humboldt, referring their failure in Peru to political pull, strongly recommended the use of them for freighting on the Mexican and Peruvian Saharas. So also did Clavijero, a quarter of a century earlier.

Benavides, in 1630, tells how the *Maesse de Campo* of the little Spanish force in New Mexico ‘for pomp had his coach drawn by two white-tailed deer, tamed since they were little; and they pulled with such dash that it was necessary to put at their sides two very

¹ A 238-page book, *Camels for Military Purposes*, Senate Ex. Doc. No. 62, 34th Congress, 3d Session, records the experiment.

² See long chapter on these camels in my *Mesa, Cañon, and Pueblo*.

tame mules to hold them back.' One who has seen the Mexican *carroza* of two and a half centuries ago can imagine the worthy soldier dashing down the streets of youthful Santa Fé, in that 'tarantula on wheels,' his span of bucks, outrigged each with a stiff-legged and backward mule.

Major Wayne, chief hero of the camel experiment, is probably the only man that ever drove a pair of dromedaries to harness in the United States, outside of a circus. He did this in 1856, while bringing his charges up to Texas from the seaboard, and found the team satisfactory. Along in the sixties, an ingenious wight of Kansas broke to harness two buffaloes, and was often seen driving them through the streets of Atchison. There were also Western farmers of that day who used the bison for ploughing and wagoning. But I do not recall in the documents any stranger team than I once saw in northwestern Chihuahua — a broad-horned cow and a diminutive burro yoked together to a *carreta*.¹

A steam-wagon — twenty feet long and eight feet wide — was brought to Atchison in 1860 to ply the prairies and haul a wagon-train. It naturally never left Atchison. But this was wise compared with the scheme of another untranslated Easterner for a converted steam canal-boat from Cleveland to Denver, in 1859, to carry the west-bound multitude as far as Denver and bring back the bullion. Passengers were to pay \$100 per head. The humor of this is that the Platte is the stream of which Bill Nye remarked that it had a wide circulation but little influence; and Artemus Ward that it would make a river if set up on edge.

This is not the place to deal with the fascinating,

¹ Barely escaping the scriptural curse, Deut. xxxii, 12.

and as yet unwritten, chapter of early transcontinental railroads — when there was romance even in the rail. Some day, no doubt, it will be done justice; and what a story it will be! Here also was an epoch which has no parallel. No Eastern man begins to know what railroading is until — with the precaution to bring his brains and eyesight — he has crossed the continent on the Limited; bucking grades on which the iron greyhounds of the New York Central would stall; eating, on deserts where only a horned toad could find provender, finer meals than he could buy in New York City for double the money; reckoning the problems of travel where every tie and bridge-timber has come from 1000 to 3000 miles, and every morsel of his food as far; where he rides to-day, at least as luxuriously as he can sit at home, in three and a half days across the distances it used to take five months to cover.

Nor do we much better realize, in our vestibuled habit, what railroading *was* — in the days when thirty shiploads of rails and engines were sailing 19,000 miles around the Horn for the New Overland Route; or when the Union Pacific built 65 miles of track in a month, and the Central Pacific 9 miles in one day; or when 25,000 men and 5000 teams made the dirt fly on the Utah grade; or when ties cost \$2.50 each, laid down; or when it took ten big ox-wagons to haul the weekly pay of the track-laborers below Franquilin (El Paso); or when the Sioux took up many a dripping ticket on the work-trains, and there were more soldiers than passengers; or when cities of 5000 sprang up almost overnight at the end of track, and in a few weeks disappeared between two days to mushroom again fifty miles farther to the west; or when freight crews doubled

back three or four times on a 300-mile division without sleep, practically without food, 'hitting the high places' over wobbly road-beds down the gaunt flanks of New Mexico.

In its pioneer days the railroad still was human; but it was the death-knell of travel (which was *travail* enough to be manful), and of the journey (which had its day-by-day), and of the voyage (which had, by etymology and fact, its wayside). There needs now a new word for our going, which is not because we would, but because we think we must. It is now mere propulsion. We do not go — we are whisked, whither we do not particularly care to go, in a rush God-knows-for-why. From being joy on legs, it has become a stuffy bore, upholstered with modern inconveniences. Romance and curiosity alike are fled from our transit of the land. Only in the skies can man recapture the flavor of the road — and some of us have used our legs too long to take to wings.

II

THE VIRGINAL MULE-TAMER

REMEMBER Rarey? You ought to — even if you were not born (as I was not) when he woke up the world as it has perhaps never again been awakened by an obscure citizen with no loftier gospel than horses and the humanity of them. For a generation or more he was a household word throughout the world. Indeed, of all American travelers, there is only one other (besides President Grant) for whom the sedate Old World has sat up to take serious notice — and this was an equally consummate subjector, but of much bigger game, and had behind him the power and the glory of the highest office in the world. The two had theories as different as their hobbies. He whom we are in no danger to forget had for creed, ‘Walk softly and carry a Big Stick.’ The rubber heels of him still echo along our corridors — *so* softly stepping! And of the Big Stick there are bumps outside many heads, and inside all.

But Rarey also walked softly, and carried no stick at all. He was no bronco-buster nor ‘breaker.’ He was perhaps the most extraordinary hypnotist that ever laid inevitable eyes upon a hell-bent horse. The sensation he made throughout the world, the gold medals he acquired from many governments, the new gospel of mastery by gentle patience, which he made so marvelously clear that it has affected the whole attitude of civilization toward the horse — all these derive from his intuition that the excesses and ferocities of an animal are not from original sin nor devilish hatred, but are simply indications of fear;

that if a man isn't afraid of him, he can recover that 'dominion of the beasts' which was the very first letter-patent that the Lord gave Adam in the Garden of Eden.

We ought to remember this slender, modest, gentle, humorous American farmer, born in Franklin County, Ohio, in 1828, and only thirty years old when he had conquered Europe and taught the Old World an absolutely new idea as to the most useful of our animal servants and chums. For his soul is marching on. His methods and his thought have changed the fate not only of millions of horses, but (what is far more important) the temper of millions of men.

It was at twelve years old that John S. Rarey began to break horses differently from the Ohio habit — by not breaking them at all, but *mending* them; and in a little while he was in demand not only to tame other people's horses, but as a teacher of trainers. When he went to Europe, after a rapid rise to fame in this country, he won what was much better than fame — he conquered the insular and stupid prejudices of the greatest nation of horse-fanciers. He stood the severest tests not only before royalty, but in public. Queen Victoria, the Czar of Russia, and many other sovereigns gave him such welcome as perhaps was never given any other private citizen; for not only the magic efficiency of his method gratified the wonder-thirst; the principle of it appealed to every generous heart.

His most notorious feat was the absolute taming of Lord Dorchester's famous stallion Cruiser — the most famous outlaw in all England; a man-killer and a wrecker, upon whom they had to keep a huge iron muzzle that would have been heavy for a grizzly

bear; for whom they had to take off the roof of the building in which he was confined and lift him out with a derrick, to change his stall. In three hours, Rarey had this demon horse eating out of his hand, and the owner mounted Cruiser's back.

Rarey did equal wonders with equally savage though less famed horses. The Czar of Russia sent to Siberia for the fiercest beasts obtainable — and found some that were too fierce for any one else, but not for Rarey. And so across all Europe, in the presence and actual companionship of crowned heads, and before skeptic multitudes, he trepanned the civilized world with the true joke that a horse isn't such a fool as a fool takes him to be; that he is intelligent and gentle at heart, and more than willing to love his master — if he has a master fit to love.

If Mr. Rarey had persisted unto the present day, there might be no suffragette movement. He might have made his millions by teaching (via trepan) the equally useful joke that even women would rather eat out of your hand than kick, if they have a reasonable excuse. But John S. Rarey died untimely (in Cleveland, Ohio, October 4, 1866); and a brilliant career — of which the last was in Government employ as master of inspection of the horses for the Army of the Potomac — came to an end before several such questions which might tax the higher hypnotism of a real gentler could have the benefit of his genius. An excellent sketch of his life and wonder-workings, illustrated by wood-engravings that might well have been made from drawings by Du Maurier, was printed in 'Harper's Magazine,' April, 1861. Rarey himself published in 1858 a little 'Treatise on Horse-Taming.'

If Rarey had lived in the Middle Ages and in

Europe, his wizardry with beasts would have been held miraculous and he would have been sainted — which wouldn't have harmed the calendar at all. While we have no Vatican to canonize such Americans as deserve perpetual candles at the altar of our memory — and while our Hauls of Fame are sad, and our foremost poet is our hindmost choice — we might possibly put some string upon our finger for the men who change the ideals of man for the better. In any such temple, where Edison would have his niche as one that conquered physical darkness and broke the back of distance, so would there be inevitable place for the man who taught all tamers that the strongest bit is a velvet one.

But though Mr. Rarey never heard of him and was stealing no patent, the very first decades of civilization in the New World were distinguished by a man of fully as great hypnotic powers, far more variegated than Rarey's and fully as well authenticated — powers extending over many times as many years and many times as many beasts (even including unbroken man); and also garnished with the rich romance of a thousand miracles which belonged to the time and could not help clustering upon a character so extraordinary in the obvious prodigy of gentling brutes that none other could negotiate.

This sixteenth-century Rarey had no gold medals of crowned heads. There were no newspapers nor magazines to herald him. But he did make a far more important mark on progress; for he was the first man that in the New World ever broke a yoke of oxen and put them to work; the first man that made wheels and wagons and made them busy in the development of American commerce. He was as gentle as Rarey, and tamed more kinds of wild creatures

and made them much more useful to humanity than simply to be exhibits in British horse-shows. And when it comes to the most ferocious beast which devastates the field of life, that devouring lion Hymen — he was in a class by himself.

Of all the lives of all the saints, and the near-saints, the only one that seems to me anywhere near so human and so fascinating is that of Saint Francis, the foremost gentleman in history, save One. But the American wonder-worker had the better even of that blest soul of Assisi, both for his more interesting habitat and for his more variegated experiences.

No finishing school for saints would probably schedule mule-driving, horse-breaking, or ox-freighting as a chief requirement of its curriculum. There are needlessly embittered persons who would as little prescribe women as a means to canonization. With them, I could hold no debate.

But this first mule-persuader in America, and the champion abstainer from that cup which steers and connubiates — he passed successfully the grueling cross-examination of the Apostolic courts as to both temptations; and the archives prove him to have come through without spot or blemish. He never swore at either of 'em. And he solved perhaps the riddle of the Sphinx: How to be happy though married. For he was both.

Sebastian de Aparicio was proof even against wives. Though he married twice, he brought up each spouse as an innocent lamb, and died himself at ninety-eight, 'still preserving his virginal chastity,' as all his biographers repeatedly assure us.

Sebastian de Aparicio was born in 1502 in Gu-dina, a hamlet of ranchers and teamsters in Galicia, Spain, of the dominion of the Counts of Monterey.

It was a long time ago. Ferdinand and Isabella, who enabled the New World, and Alexander VI, the Pope who divided it, were still upon their thrones — and the Discovery was but ten years old. It was thirty-one years before Queen Elizabeth was born, and fifteen before Luther's Reformation.

Aparicio's parents were 'poor but of good life' — Juan de Aparicio and Teresa del Prado, 'in which Meadow (Prado) God hid this inestimable treasure.' A miracle marked him as a lad. 'A cruel pest fell upon the province, and was like to devour it.' Victims died in a few hours after seizure. The boy succumbed. The pest-house was outside the village, and the laws of quarantine were strictly enforced; but the mother secretly hid him in a deserted house near home, and visited him by night. On the second day he seemed to be dead, and in her grief she hurried home, leaving the door unlatched. A ravening she-wolf pushed open the door, but instead of absorbing the boy, lanced the pestilential swellings with her teeth, and licked the wounds until she cured them, and the boy got up and shut the door; so the mother found him on the road to recovery when she came to bury him.

Schooling then was for the few, and Aparicio did not learn his letters. But he became proficient with horses and cattle and in the labors of the ranch — a homely education which stood him in good stead in later years. He learned, too, that unswerving obedience of the elder days.

When he was about sixteen, 'a tall and ruddy youth, handsome and well-built, graceful and mettlesome as Joseph,' he left home to begin his wanderings, on foot, without money, and with only his cape for a shelter. He trudged on until he came to Sala-

manca, where a noble and wealthy widow employed him to freight between her house and ranch, with a yoke of oxen. Here began that extraordinary career about which his biographers cannot say too much. The rich widow bade him fetch a candle and unharness her, but he gravely reproved her and bade her call the damsels of the house; while he fled for safety and tramped into the province of Andalusia, where he found service in the seaport of San Lucar de Barrameda.

Here the young daughter of the house besieged him to marry her, and failing of an answer, made a night assault upon him — but he made his escape, wandering forth into the night and on to the city of Zafra, in the province of Estremadura. In the house of a noble cousin of the Duke of Feria, he got a job with an ox-team freighting cloths to a fulling mill. The inevitable daughter of the house cast eyes upon him, making advances with a sweet-cake baked by her own fair hands — but, strangely enough, became angry when he handed it to one of his oxen.

Though he had maintained his modesty so well in these assaults of the demon (as the chroniclers note them), he realized that for the fatal gift of beauty there was no safety save in flight; and back he wandered to San Lucar, working as a laborer in the vineyard for little pay. At length he was made manager of a farm, and for seven years built up such harvests as the *rancho* had never seen before. His employers promoted him and gave him the lands, seeds, and tools for two *fanegas* of wheat for his own account; and he gathered a great harvest and sent most of the money to his parents, whom, during all his wanderings, he had been supporting.

About this time, the bee of the 'Indies' (as America

was then called) began to buzz in his ear. He was offered high inducements to remain upon the ranch, but felt his way was pointed out for him. Before he left, however, there was another proof of his constancy. A young lady of Ayamonte eloped with her lover to be married in San Lucar; but they were closely pursued by angry relatives, and the timid Lochinvar abandoned his *novia* at the ranch house of Sebastian, who promised to care for her, and did so for forty days, giving her his room while he slept outside the door upon the wintry ground.

Contrasting this hero with her recreant lover, the damsel proffered herself in marriage, but Aparicio substituted fatherly advice. In desperation she begged him for the loan of a shirt — 'For the love of God, since my clothing was lost on the way.' When he drew forth the garment from a chest and turned with it — it was, indeed, needed! Full of holy indignation, Sebastian, with a sermon on modesty, flung the garment at his temptress and fled again. He was good enough, however, to seek out her parents and secure their pledge of forgiveness first and their promise to put her in a convent, and then delivered her safe to their hands.

In 1533, being then thirty-one years old, Sebastian set sail for America. Being a Gallego, his Castilian was crude, and the sailors made all manner of fun of him. Long before the voyage was done, however, he had conquered all hearts and was a favorite with all from the captain down.

Landing at Vera Cruz, he trudged after a few days up that wonderful trail to Puebla de Los Angeles, founded only three years before. In its neighborhood he went to farming; but the returns were not satisfactory, and in a short time he turned his hand

to that which is historically his greatest distinction, and of far more import than the miracles attributed to him by subsequent ages.

There is no question as to the veracity of this, his material record. He was the first man in the New World to tame and break oxen to the yoke, the first man in America to make a pair of wheels, the first to build wagons and draw them with oxen — the first freighter in the Western Hemisphere, and pioneer in that tremendous overland traffic of which I have written elsewhere. Up to this time, all transportation in the New World had been by pack-animals; and it caused vast admiration to see this young athlete subject the fiercest cattle and drive them obedient at the head of his huge prairie schooners. He began freighting from Vera Cruz, the port of entry, to Puebla and the City of Mexico, with a whole caravan of his own eight-ox wagons, bringing up from the coast the precious consignments from Spain, and back to the coast the gold and silver of the Mexican mines.

About 1542, after nine years in the vicinity of Puebla, he removed his freighting outfit to the City of Mexico. From that capital, with incredible work, he surveyed and opened a wagon-road four hundred and fifty miles to Zacatecas, the richest silver mines in the New World. It was indeed a titanic undertaking; but the same magnetism which served him in taming brutes was also efficacious with wild men. The way was infested with the barbarous Chichimecs, ferocious and cannibal Indians who spared no traveler. But Sebastian, by his diplomacy and fearlessness, not only won their friendship, but actually procured them to open the road for him. For many years he traveled among them, not only undisturbed, but

helped by them, while he brought down long wagon-trains of silver ingots from Zacatecas to the capital, and took back supplies from the capital to the great mining camp. The round trip of about a thousand miles required months, and the teamsters took their wives and children with them in the huge covered wagons, camping by the way. Likewise, many travelers rode with him — as the only conductor immune from Indian attacks.

After ten years of this freighting, he sold his outfit in 1552 and bought a farm near Tlalnepantla, a league from the City of Mexico. Here he toiled with his crops for more than twenty years. Though he had a few Indians to aid him, he always worked for himself, and 'irrigated his *rancho* with the sweat of his face.' He acquired a handsome fortune at this, and another from the neighboring cattle ranch which he purchased later.

He was Lord Bountiful to all the countryside, supplying the necessities of all — laborers, widows, orphans, and travelers; and was known as 'Defender of the Indians.' Many incidents testify to his character. For instance, he dowered the three daughters of a neighbor, and upon the father's death, summoned the widow and tore up before her the obligations and note. He stopped the state carriage of the Chief Justice, in which a debtor was being sent to prison, redeemed him with three thousand dollars, and supported him in his house for many years.

He was chief referee and arbitrator in all neighborhood difficulties; and his word was as good as any one's bond. Now that he was rich, he worked as hard as ever, toiling daily in the fields, and sleeping nightly (as he did all his life) on one little rush mat or *petate*. His only food was unleavened cornbread, 'with

sometimes a little salsa of the fiery chile'; and he ate but once a day. On his lonely journeys he never carried food — trusting God to feed him. It is certified that many a time the angels brought fish and warm bread to him and to some hungry comrade in the wilderness. Nor did he permit himself wine, save a little, and rarely, in his last years. He never played cards (which the vast abundance of the silver mines made the almost universal custom in those days); and though a teamster nearly all his life, he never swore. His only secular amusement was throwing the bar, in which he excelled.

At last, at the age of fifty-five, broken with his hardships and self-denials, he began to think to take a wife — but with reservations. A rich neighbor invited him to his house and there offered him his daughter with a dowry of a good farm and six hundred dollars in coin. Sebastian gave her six hundred dollars as a consolation price, but would not wed her.

When he was sixty, a poor but honest citizen of the town of Chapultepec proffered him his young daughter without dowry, and he accepted. The young wife played with other children, and he treated her as she had been a daughter; putting her away to bed and saying his beads and sleeping on his *petate*, or a bullhide, outside the door. Her aggrieved parents 'armed a lawsuit,' for they wished an heir in order that they might inherit the fat properties of the good old man. 'But God sent a grave sickness which tied the steps of her life, and took her to Himself after about one year of marriage.' Sebastian buried her with great ceremony in the convent of Tacuba, and sent her parents two thousand dollars for their mollification.



BRINGING HOME THE BRIDE AND THE WEDDING NIGHT

'Saddened and afflicted by the loss of so good a companion,' Aparicio treated of a second marriage. A girl of tender age, María Esteban, noble, virtuous, a native of Azcapuzalco, was his choice. But again within a year he was bereft. The girl wife climbed a tree in the *patio* to watch for his return from the fields, and when she saw him coming, she hurried to descend, and fell and was gravely injured, from which resulted her death. Again a noble funeral, and again a gift of two thousand dollars to the parents, along with all the jewels and adornments he had given her. The parents and the father confessor had complained in this case also of his conjugal inattention, but as the artist shows veraciously, his couch was a bullhide outside the door. He said afterward that he had 'brought up two little doves for heaven, pure and white as milk'; and that he had been moved to wedlock not only by the longing for filial companionship, but also that he might teach these young souls the beauty of continence.

It was agreed by the theologians of the day that Adam had dominion over all the beasts so long as he was obedient to God, but that when he rebelled, they rebelled against him. It is the unanimous judgment of his biographers that Aparicio's power over animals was due to his infinite obedience to the Almighty — even as Saint Francis had the same mastery for the same reason.

His eloquent advocate, Fray Diego de Leyba, recounts some of the examples which are fully certified by witnesses in the Apostolic 'Process' brought for his canonization:

'Thus Aparicio ordered the oxen and steers which he yoked to his wagons, as if they were capable of reason; and they obeyed him in the same manner.

He called them all collectively Choristers; but to each one he had given its special name — to one Gachupín (which means a Spaniard living in Mexico); and another Blanquillo (Whitey), and another Aceituno (Olive), and so on. As soon as one of them heard the echo of his words, it came directly to him, licked his habit, stuck its muzzle and mouth in his sleeve, whence it extracted the ears of corn or the pieces of bread which the Man of God was wont to carry for this end. Ordinarily they ate the barley or corn which he gave them in the hollow of his hand, or in the folds of his habit. And if they fought over the food, he hit them with his hand on their muzzles or with his girdle on their heads, and scolded them, saying, "Be quiet there, have sense." And it was a thing of marvel that, as if they understood, they returned to eating; and having reached what he could, each one went off to let the next one in.

'As he called the oxen and steers Choristers, so the human choristers of the convent he called Novillijos (little steers) because they were new in the religion; and he loved them with great fondness and used to give them fruit and sweets . . . likewise he used to play bull-fight with them and other child's games, with notable content. . . . One time those who were in the convent of Puebla got together and said to him, "Aparicio, let's go see the oxen, how they come to you when you call them"; and he said, "Go, get grass, and you will see how they come." They brought it, and he took them to the corral where the oxen were un-yoked, and gave one call "to the Choristers!" On the instant they all came. Aparicio was giving each one its ration of grass, when two came together to capture a handful, forcing aside the one which should have had it, and attacked it, pressing it fiercely with

their horns. Aparicio, seeing the contest, and that one of them was maltreating the other, gave him a yell, saying, "Hello, Pintillo, is that what you have been taught?" It was a notable case, for as soon as they heard his voice, the angry oxen left off the combat and came to Father Sebastian, mooing and licking his hands, to the no small admiration of the surrounding religious.'

One time Aparicio found himself alone in the country when he wished to yoke up the wagons; and having called one ox to put the yoke upon it (so swore a witness) there came up another, named Pinto, and commenced to lick his habit and to play with him. To which the Father said, 'Wait there, Pinto, because you don't have to go with this yoke, but with another.' And so the ox stood waiting. Having finished yoking the first one, he said to Pinto, 'Come up now, for here is where you have to go pulling.' And so Pinto passed up to the other place, very much delighted, and put down his neck that the yoke might be put upon it.

The oldest and wisest of the oxen he called Capitán (Captain); and the rank was well deserved. 'On many occasions,' says Father Leyba, 'when he found himself alone, he unyoked the oxen and said to Capitán, "Take these Choristers where they can eat, and take care that you be back here in the morning with them." With this they scattered over the country, but at dawn the ox Capitán, to whom he had entrusted them, went gathering them up and brought them to the indicated spot; and Aparicio proceeded to call them one by one and to yoke them up.'

Fray Sancho de Landa testified under oath that many times when the Servant of God, arriving at

the monastery of Puebla, had finished unyoking the oxen, he used to call them by their names and they would come to him in their order; he indicating to each one the ration of corn which he was to eat. To one he said, 'You who have worked much, eat so many ears'; and to another, 'You who have worked less, eat so many.' And each one ate that which was assigned him, without exceeding the limit and without interfering with another, and all behaved with so much concert and domesticity as if they were rational beings. Likewise, when he ordered them that they should do no damage among the growing crops, they complied punctually, and although they wandered days and nights among gardens or fields of corn, they never ate a single ear nor broke a single stalk, but only pastured from between the corn the grass or weeds which would not be missed.

'Thirty-six instances of this class, all very admirable, and other similar ones of which there is common knowledge in the Kingdom, and in the histories, are testified in the Apostolic Proceedings. Here we will put down only one of these singular circumstances, which happened in the Pinillos de Cholula, the year of 1596, in the *hacienda* of Juan de Garfías and Francisca Mendez Soto Mayor, who under oath deposed as follows before the Apostolic Court: The Venerable Aparicio arrived at said ranch, and seeing the said Francisca, asked her for God's sake something to eat. . . . The Venerable Father unyoked his oxen and turned them out to feed, and came to take the milk she had prepared. The woman, staying in the house, lifted her eyes and saw that the oxen, who were ten or a dozen, had entered the garden which was in season to harvest; and fearing the damage, she cried with fervent words, "Father, your Rever-

ence wishes to take milk, but your oxen are destroying my corn!" To which Aparicio, with much calm, responded: "Do not fear that they will eat a single ear nor break a stalk, for I have ordered them to obedience that they shall not eat other people's property, which is a sin!" And with this he continued to drink his milk very leisurely. The woman . . . took these words for a jest and thinking that he delayed much, she said, "Father, look out! If the oxen eat sixty ears they will burst; go and drive them out." The venerable Father . . . having finished his milk said to her: "If you don't believe me, come with me and you shall see." He went forth from the *patio* of the house, and though the field in which the oxen were going was more than two squares distant, he said in a low tone, "Capitán, come here and bring your companions." The woman began to laugh, saying, "I can hardly hear, being close — how can the oxen hear away off there?" But a strange thing happened. Instantly the oxen came sallying forth from the field, and came to where Aparicio was. He said to the one that came foremost: "Come here, Capitán! Have you done any damage in the corn-field?" And the ox shook his head to one side and to the other, as a person who answers "No." The venerable Father turned to the woman and said, "You see how they have done you no damage?" And then to the oxen, "Take my benediction." And putting out the sleeves of his habit, the ox came and kissed it; and then he called the others by their names one by one and they did the same; and then returned to eat in the same field. The woman was astonished at the happening; and when her husband came, she recounted it. He, to satisfy himself of the truth, went in the morning and examined the cornfield and found

the tracks of the oxen halfway through it, but not an ear was missing, nor even a leaf of a stalk eaten.'

The good Father had even oxen so *redomones* (educated, or smart) that they could confess their faults like the choristers when the master reproves them in the chapel. They would prostrate themselves on their knees and stretch their muzzles upon the ground.

'Domingo Perez Forte, a laborer in the province of Guexotzingo, gave him as alms a wild steer, the which he shod with his own hand and then lashed it by one horn to a tame ox with which it came away. After eight days the steer returned to the *hacienda* where it had been raised; and after another eight days the venerable Aparicio came hunting it. Having found it, he made it enter a corral and there reproved it, saying, "Look, Brother! Does it seem to you that you have done well in leaving me and not helping me carry the alms to the monastery?" At which the said steer put down his head, and principally the right side, on whose horn he carried hanging the lash-strap; and during all the time that the scolding continued, which was the space of almost half an hour, he was thus humiliated, until Aparicio called him and said, "Well, Brother, come here and we will go to the wagons, for we have to go to Puebla." And the steer came and he yoked it by the head to one of the wagons, and it began to pull with such strength, and so much better than the others that they offered eight oxen for it.'

At another time, one of his best oxen being stolen, he learned that another freighter had it in his herd. The fellow denied having such an ox, whereat Aparicio said: 'Let's go down to the corral, and I will call my ox. If he comes when I call, I will take him; and if not, I will go with God, and you shall remain

free of calumny.' The man agreed, as this seemed to him a foolish proposition. They went to the corral, and with them many other persons. Aparicio could not pick out his ox among the multitude, but he called in a loud voice, 'Blanquillo!' And in the moment that he shouted, the ox came bellowing at full tilt, and came to the Father and licked his sleeve, from which he took out a piece of bread. Needless to say the thief was confounded and the bystanders were lost in admiration.

At one time, also, when Father Aparicio entered the refectory where the religious were eating, one of the oxen followed him into the room, to the affright of the priests who told him to take him out. He ordered the creature to go forth without doing damage, and the ox obeyed with all promptitude.

Leyba thinks this may have been a special providence and a lesson to some of the younger religious who were at that time persecuting the venerable Aparicio.

They had brought an Indian to do penance in the monastery for some delinquency he had committed and the guardian turned him over to the venerable Aparicio to help with the wagons. The Indian was of bad disposition, disobedient, and sullen. On one occasion when Aparicio had ordered the Indian to yoke the ox which he called Gachupín, the ox attacked the Indian so fiercely that he left him in a very sad state; whereupon Aparicio said to him, 'Thou art no Christian, and for this the tame ox has done thee harm, for it has more sense than thou, since it does what it is told, and thou dost not.' In proof of this he ordered the ox to stand quiet, an order which he instantly obeyed. The Indian could not help in yoking him, for he was bleeding terribly from

the wound which the ox had made on his head, so Aparicio, with his accustomed charity, laid his hands upon him, pressing the wound and cleaning away the blood, whereupon the Indian remained well and sound. And 'that he might be the more confounded, Divine Providence ordained that the miracle should go still farther . . . for since the yoke was low and the ox very high, the ox knelt at the feet of the Father and staid there during the time that the yoke was being lashed on. This being finished, he arose and began to pull.'

Once, near the Sierra Nevada, an ox which had been running wild for a long time, became so fierce that he attacked all comers. The angry owner was going to kill him, but Aparicio asked him as alms for the service of the wagons of the monastery. This being granted, he took off the girdle from his Franciscan gown and walked up to the raging beast in the presence of all the servants and laborers, who expected to see him killed; but the creature came to him and licked his sleeve, and Aparicio put the girdle about his neck and led him off with his other oxen. The bystanders wished to kiss his feet for the miracle, but the humble Father told them that it was all the girdle of Saint Francis, and that they should give thanks to God and not to him.

Another time a tame ox and an unbroken steer crowded into a narrow passage in the corral at Puebla. Aparicio took the yoke and straps and went in alone and yoked them, in spite of the fierceness of the steer. The religious who were looking on laughed greatly; for the door was only a yard wide. But their laughter was turned to admiration when the Father said, 'Go on, make room one for the other to get outside.' And even as he ordered, they went out one

behind the other without hitting the yoke against the doorway.

Many instances are sworn to where he was given oxen and steers so fierce that their owners could do nothing with them, and that the best *vaqueros* could not even lasso them, so agile were they in dodging the rope and so ferocious in their attacks. But the tamer, without lasso or other thing than his girdle, or sometimes the mere goad, would bring them to the yoke as tame as lambs — talking to them in pious exhortations: ‘Brother Steer, what you have been doing for evil, do for good. We were born to work.’ Or: ‘Here, Sons, for the love of our Father Saint Francis, be tame and subject yourselves.’

Another of the ‘take-one’ animals given him as alms was a powerful ox which was useless because of a terrible wound on his head just where the yoke would come.¹ Filled with pity, Aparicio set himself to the cure; and heating an iron bar red hot, walked up to the beast (which was preparing to charge upon him) and said: ‘Brother Ox, be quiet there, for I want to cure you. Don’t be ungrateful.’ Thereupon with the glowing bar he cauterized the wound. The ox stood bellowing and pawing the earth, but not attacking him. When the cauterizing was finished, he put a handful of ashes upon the wound, making the sign of the cross over the wounded neck. The animal relieved his feelings by charging around the landscape and attacking even the trees, but he offered no violence to his saintly doctor.

Branding steers once at the house of Marcos Vasquez, who lived in the Ciénaga, a steer men were

¹ The illustration shows the ancient (and modern) Mexican method of yoking — not with bows, but by lashing the yoke to the back of the horns.

trying to lasso and brand became so infuriated that he butted the bars of the corral, broke them, and burst forth. Attacking an Indian, he carried away his blanket on his horns, and though two or three cowboys on horseback followed him, they could not rope him. Thereupon Aparicio asked him of the owner as alms for Saint Francis, and insisting, although the owner protested that the brute was too fierce, Aparicio brought the wild steer to a corral, and walked up to him, rubbing him on the forehead with his hand. 'Chorister,' he said, 'now I pray thee be humble, for thou servest the Good Master.' And, yoked up with the rest to the wagons, the animal began to pull as tame as if it had been long in practice.

But the sage (and doubtless experienced) chronicler realizes that it is not, after all, so much of a miracle to make the male beasts mind; and he fetches us to climax by relating how Aparicio bossed even the less domitable sex — not forgetting to remind us that this chief miracle was also employed to convince the Philistines.¹ 'Aparicio was hauling rock for the monastery of Puebla from one of the quarries in the suburbs; and on the first trip an ox tired out and he unyoked it at the quarry. An untamed cow was pasturing near by, which had never been yoked nor broken; and with her was her son, a little calf which she was suckling. When the venerable Father Aparicio saw her, he felt that his need was succored; and with his accustomed faith he called her, and the cow subjected herself and let him yoke her as if she was one of his domesticated oxen, and at once began to pull with incredible tameness and dexterity, as if she had been brought up at it. The little calf began to blat and run after its mother, but the servant of God

¹ I Kings, chap. 6.

ordered it to be quiet and wait there, that it might not tire itself in following; and said to it: "Stay there, little Chorister, while thy mother works." It was a marvelous event that on the instant the calf shut up, and remained immovable in the very spot in which it heard the order of the venerable Father; and although it saw its mother pass by, going and coming, in four trips that she made, it did not dare to move from the place which obedience had pointed out. Until, on the fifth trip, as it was now midday, Aparicio detained the wagon and said to the calf: "Come, suckle a little, and then wait while thy mother shall help her companions." The calf obeyed punctually; for as soon as it had suckled, the Father pricked up the oxen that they should haul the wagon, and the calf turned back to stand in its place until the evening when its mother had finished her task with strange punctuality and to the great admiration of two witnesses who swore to it.'

Fray Sebastian was never more at home than with the 'Cruisers' of his day. It frequently befell that when he needed a horse in the country, there was nothing available but some stallion or jack so devilish that no one had ever been able to deal with him; and the Apostolic Proceedings are full of depositions as to how he gentled these ferocious brutes in a twinkling with soft words and confident hand — very much *à la* Rarey.

The soothing of the human voice seems to have gone a long way with both tamers — and, for that matter, Aparicio's habit of confidential alloquies with his subjects was confessedly patterned after Saint Francis, founder of his order. Do you not remember how the good saint reproved the ferocious wolf that ravaged the flocks and beehives of Gubbio,

and made a pact with him (the wolf giving his paw thereon like a gentleman), whereby the killer killed no more, but followed about the city streets, unharried by the dogs, and at every door they cheerfully gave him a handout?

Even the great red ants, 'which are so mordant and noxious,' heeded the twist of Aparicio's thumb. Sleeping once on a big anthill, he was covered with the insects, but Pedro Vizcaino vouches that they would not do him harm. That was 'going some'; for they nip at the drop of the hat, and like red-hot pincers. But that was not a circumstance to the time when they invaded his wagons and seized the wheat — an ant to every grain. It looked bad for the granary in Puebla, but Aparicio said: 'Brother Ants, that wheat is alms for Saint Francis. Would you rob him?' Whereupon each little red highwayman dropped his booty and retired.

Even the elements obeyed this man who knew himself how to obey. When he was on God's business, all weathers stood aside for him. It is established under oath, by witnesses who certainly believed themselves, that when he was hauling supplies to the monastery of Saint Francis, the very skies respected his mission. Others on the same road lost their loads of wheat and corn by tempest; but the rains divided where Aparicio's wagons stood, and not a grain of his open wheat was wet. The snows fell all about, but left dry ground for six feet on either side of his caravan. When the rude bridges on his road washed out in freshets, the angels carried him and his loaded wains across the gap. When his oxen ran off into a swollen stream, and his horse was swept away by a torrent, God's scouts rescued them. Even his crops, when he was ranching, were divinely protected, and

while every other field in the region was beaten flat by the hail, his corn and wheat and barley stood tall and dry.

In 1573 (when he was past seventy) he gave his ranches, worth upward of \$20,000, to the nuns of the convent of Santa Clara, who were then founding their great establishment in the City of Mexico, and took the Franciscan vow and the habit of a *lego* or lay brother. It was judged that in his advanced age, and after so active a life, he was hardly fitted for the confinement of the cloister, so he was set to work as a common laborer for the nuns. It is to be hoped that these heavenly sisters were particularly good to him; for the Devil was particularly bad — slow to learn, as the Devil always is — and still enraged at the continuous escape from his talons of this saintly personality. In 1574, he was given his vocation, and formally admitted to the order. This ceremony took place on the day of Saint Anthony of Padua, and in the convent of Saint Francis, in Mexico, 'the first cradle of religion in the New World.' He was sent forth to Tecali, five leagues from the capital, where there was a poor and short-handed monastery, in which he was cook, gardener, sexton, day laborer, ditch-digger, hewer of wood, and drawer of water.

After a year at this drudgery, his superiors transplanted him to his beloved Puebla and its Franciscan monastery. Here there were nearly one hundred religious within the enormous cloister, and the inevitable force of classified assistants. There was need, however, of a teamster and a solicitor of alms, and to this twofold responsibility the old man was appointed: whereupon he builded two wagons, picked out a dozen scrupulous oxen, and went to it. His canvassing rounds covered twenty-eight settlements in the

region of Puebla. The second city, still, in Mexico, and at that time quite as important as the capital and already larger than New York City was a century later — the situation of Puebla at the head of the one great artery of early American commerce, the highway from the seaport of Vera Cruz to the interior, made this fertile valley perhaps the most important economic focus of New Spain, though the City of Mexico was of course the official center.

Here Brother Sebastian, with his two six-ox wagons, freighted throughout the countryside, asking at every house for contributions to the work of Saint Francis, loading his wagons with the pious fruits and hauling back the corn, wheat, beans, greens, and other offerings to the great warehouses of that vast church establishment, which not only trained its internes in ecclesiastical ways, but cared for the poor, restrained the vicious, and was in fact a more potent factor for civilization and law than all the political machinery of the city. He also furnished all the wood for the innumerable ovens, fireplaces, and other eaters of fuel; felling the trees, chopping and splitting the logs, and hauling the great loads into the court of the monastery. He carried neither tent nor blanket. Throughout the cold winter of the *Tierra Fría*, he slept in the mountains upon his rush mat under the tail of his cart. One huge oak on the skirts of the Sierra, not many leagues from Puebla, was his favorite camp, and this tree was preserved for centuries as 'Aparicio's Tree,' after all its fellow forest had been turned to kindling and from kindling to ashes.

But even so modest a laborer was not exempt from that jealousy which pursues success. The invidious reported to his superior that he was a most irreligious

man, and camped out in the wilderness instead of going to church; that he did not say his prayers on the pavement of the cathedral, but just went vagabonding without the fear of God. The Superior (being of the caliber of most superiors, whose revenge upon the world for smiling at them is to take it out on the inferior at whom the world does not smile) disciplined him by taking him away from this cheerful occupation of driving oxen and bringing in the stuff, and put him to the penance of hauling quarry-rock with a sad mule. Aparicio took this uncomplainingly, and persuaded the mule to haul more than it hauled before.

The better spirits of the monastery finally protested until the Superior transferred Father Sebastian to the care of the rose garden — which needed a watch-dog, because, in those simple days, every passer helped himself to the glorious blossoms of these Mexican *rosales*. But this watch-dog was shy on teeth. If any one forgot to take a bundle of roses, Father Sebastian handed it. The Superior scolded him again; and Sebastian said: 'What are they for, then? I thought the roses were to use. I cannot help giving them away if people wish them or will take them.' Whereupon he was granted permission to give one rose to one applicant, but no more; and he complied punctually, though always with apologies.

But whether this pinhead Superior was supplanted by some more generous soul, or was himself penetrated with the grace of God, I do not know — and the record does not celebrate either fact so conspicuously as I should have done in its place — the truth remains that presently the patient old man, now seventy-five, was promoted back to the humble joy of his life and given his teams again. For the re-

maining twenty-four years of his perdurance in this vale of patience, he spent his days in freighting with his oxen and gathering alms for the convent of Saint Francis, and his nights in starry worship of God and his saints — when not in fierce conflict with the demons who swarmed around him, in his own words, ‘More than mosquitoes.’ At ninety years young, and with only one Indian for a helper, he was still driving and managing, yoking and unyoking, feeding and currying fourteen oxen; loading enormous wagons and unloading them, without pulleys or trolleys nor more mechanical appliances than his crabbed old hands and his oaken back.

It is a curious detail of that almost universal imbecility of our civilized standards that we fairly worship that near-athlete who is good at best for five years, and in that time can ‘beat the world’ (which means, in our exact lexicography, that he whips anywhere from three to twenty persons accidentally projected against him from amid the sixteen-hundred-million earth-dwellers), and that we have practically no hall of fame (nor even room in the journalistic outhouse where

‘Fools’ names, like their faces,
Oft appear in public places’) —

for the kind of physique which beats the world and time by perduring resilient and mighty for ten times the calendar, and ten thousand times the utility, of the champion. And not only at ninety, but up to within a month of his death at ninety-eight, this rugged man did every day such a day’s work as no employer of labor expects to find nowadays at any price.

But the same qualities which enabled the unlet-

tered Galician to tame himself and the wild animals made it equally easy for him to convince human nature in a day when there was such a thing. He was the most successful collector that Puebla — or Saint Francis anywhere — ever had. His slow ox-teams dawdled through the countryside, and from every house drew tribute gladly rendered, not merely for the good cause, but for the irresistible pleader. And behind the creaking wains trudged the hungry poor — trudged until they caught up, and departed no longer hungry, for Fray Sebastian handed out to each all he needed — ‘and then some.’ But when he got back to unload at the convent, the wagons were overflowing — ‘For God gave him one hundred for one.’

In view of his incontinence of property, the head of the convent, after supplying him with many new cloaks, at last gave him disciplinary orders not to give away his cloak again. Next day a shivering beggar besought him. The saintly teamster scratched his head between duty and love. ‘Friend,’ said he, ‘I am sorry, but I have strict orders not to give away another cloak. But — look you, the Superior gave me no instructions to resist if you should take the cloak away from me.’ Needless to say, the beggar didn’t go off to consult a lawyer as to his duty in the premises. On this same matter of cloaks, it is interesting to learn, from the legal Process after his death, that when thieves stole his cloak and were going to cut it up for other purposes, neither shears nor knife could prevail against it; and the abashed robbers had no recourse but to return it to him intact.

While greatness is not alone the retention of human nature, it begins with that. Simplicity is not al-

ways great; but greatness is always simple. It is only the complex modern human being fretted to death with too much harness and without time to live or love; too busy to Be, spread out too thin for the joyous buttering of any bread; too civilized to be human, too much subdivided to be Big, too much adulterated to be simple — who cannot really understand the joys of even the humblest life which is single-hearted, not to say the single-hearted great life.

Aparicio, who never learned to write or read — at least comfortably — and who, for all his devotion, did not remember the cast-iron prayers, even making ludicrous 'breaks' in his responses, for which he was often reproved and once thrust into the calaboose (the only way he knew how to pray was straight to God and His angels under their own starry canopy and by the petitions of his incessant self-denial and self-torture) — Aparicio had a happier life than any 'successful American business man' that I have known — and I have known a rather wide range of them. He knew what he wished, and how to get it; and while he thought himself too mean to arrive at his ideals, he knew that he was not mean enough to be without ideals worth the price of life itself.

His conversation was the same, whether with wild animals or with the oxen, with other lay brethren and priests, or with superiors — bishops, civic authorities, viceroys. One biographer relates that a noble Viceroy of Mexico, the Count of Monterey, deeply interested in the reports of this saintly man, summoned him to his dazzling presence and greeted him with the highest respect. The old teamster (who was born, you remember, in the domain of the father in Spain), shook the Viceregal hand calmly and said,

'You are not so big as your father, whom I knew well.' To the courtier this seemed a 'break' — for this very eminent and effective Viceroy of New Spain had, in his very diminutive stature, a sore spot. But his soul was not dwarfed, and he liked this human touch — just as Lincoln or Roosevelt would have liked it.

It is hard for us nowadays, when self-indulgence is the total gospel (even of churches which indulge in all the luxuries that have overgrown the first necessity) to relate our minds never so distantly to that mediæval attitude of self-abnegation: of being sorry that you are no better, of being ashamed that even your best efforts weigh so little in the world as beside what you would like to do for it. Penance and humility, singleness and conscious self-denial — these have gone the way of simplicity and humanity and the greatness which once was builded thereof and thereupon. But since our intelligences are constantly whetting, and we are more and more accustomed to mental acrobatics and imaginative postures, perhaps by sufficient concentration we can recall enough of the old romance, which once made love and religion the pivots and the fire of the world, to see as through a glass darkly the wonderful joy of life which fell to those men who took it as a real thing, a responsibility, a man's job — and not as a treadmill nor yet as a merry-go-round.

For the ordinary appetite, it might seem self-denial and unworldliness enough to follow the Saviour's advice, Give all ye have unto the poor, and follow me; to labor threescore years and ten, amass a fortune, give it to the service of God, and go back to ditch-digging; to keep the ordinary fasts and humiliations of a Church in which one of the greatest

secrets of its unparalleled hold on human nature is that it realizes the value of self-denial. But this was not enough for this hero of the chivalric day. Even as the real lover counts not life, nor ease, nor even his very joy, as against that higher adoration which is from himself to his beloved, so the crusader (and he lasted long past the historic Crusades) exhausted not only the ordinary dictionaries in expression of his love for God, but invented new.

Poverty, hard work, humility were good expressions for Aparicio as to his love and gratitude. But they were only like saying 'Good-morning.' To translate the poignancy of his feeling, he must go further. He told his love, not by doing the things he liked to do, or by going to church for a nap, or to see his neighbor's bonnet, or the underneathness thereof; he expressed himself by doing the things he didn't like to do, and asking God to accept that as token that he cared more for God than for his comfort. While he was miraculously protected from the weather when on business (for the convent, which might suffer), when he was by his lonesome, the rains and the snow and the frost bit his flesh and warmed his soul. He cultivated them, not because it was agreeable to be soaked or frozen, but precisely because it was uncomfortable and he thought it worthy to be uncomfortable for God's sake. He would come in to the fireplace of a *rancho* and burn his flesh in contrariety. He ravaged his hide with his fingernails. Following the Descalso (barefoot) order of the Franciscans, he gave worse to his feet among the cacti and rocks of the Sierras than his brothers on the pavement of the monastery; and the chroniclers report that his feet were always a mass of sores. Like that Apostle of California, the more learned, equally

devout, and quite as miraculous Junípero Serra (our efforts to canonize whom have been vain, because he never raised anything from the dead, though he raised from a desert to civilization and to our happiness the Garden of God's World), he used to beat his bare breast with a rough stone until it was raw. Years after Aparicio's death, in one of the many inquests held to pass upon his miraculous incorruption, this same great lump was found where for years he had tortured himself, and still fresh-curdled upon it the blood of his sacrifice.

He also flagellated himself; and Bombelli's interesting copper-plate is unquestionably the first illustration of that strange self-whipping which I have described in 'The Land of Poco Tiempo,' as still surviving among the *Penitentes* of New Mexico — the penitential order established in Italy in the thirteenth century by Saint Anthony of Padua; spreading over all Europe, transferred to Mexico with the Conquest, brought to New Mexico in 1594 by Oñate, where it persisted as a fly in amber long after it disappeared from the rest of the world.

One of the few advantages of civilization over early days is that the Devil is as subdivided as we are, and there is only a little devil left for each. None of us are significant enough, now, to engage the concrete attention of the Boss. But in the days of Sebastian de Aparicio, it was different. Even as God had time for the individual, and before the public school had taken his place (and mother's), so the Devil had that elegant leisure which is the foundation of a good time, and was able to leave routine to his lieutenants and devote himself personally to the pleasure of tormenting the company of the select. So far as I can recall, few other saints have had as

many rounds with Satan, and no other has had so many of them photographed by a veracious engraver. I hesitate to reproduce from Bombelli the graphic presentment of the occasion on which the persecuted saint flung at the Adversary (and scored) one of the first utensils of politeness, but the last which a polite person would name. But there can be no qualms in the textual or pictorial record of many other encounters.

One night Aparicio's laborers called the alarm and sallied forth to find the Old Dragon awaiting him in shape of a ferocious bull. He went to the encounter, supposing that it was one of the bulls that he had made to kiss his arms; jumped off his horse and caught the Beast by the horns and began to wrestle, and although 'the Tartarian power showed him soon his mistake, he did not desist like a coward from the strife, but struggled for two hours with ferocious combat and at last won the victory, thanks to the God who befriends us in tribulation.'

At another time when the Devil and various satellites were plaguing him in the monastery in Puebla, tearing off his covers, banging him from wall to wall of his cell, and persecuting him in every way, from sore bones to the fear of sinning, that devilish ingenuity could devise, two other lay brothers were assigned to sleep with him. But these fled incontinently when devils in the shape of rampant lions invaded the cell and assaulted them, snatching the torch and walking upon the ceiling with it, head down, and otherwise ruffling their finer feelings; and poor Sebastian had to out-Daniel it alone — as graphically illustrated by Bombelli.

By this time His Plutonic Majesty had given up the stalking-horse of the female form divine, wisely



APARICIO CONQUERS THE DEMON IN THE FORM OF A BULL

judging that minor devilments might be more effective because less suspicious; and, finding seduction vain, employed every other fiendish art for terror and torture. He was not even above peanut politics, judging that if he could trap the good man with a little temptation, it would be an entering wedge for a greater. He descended to offering covers to Aparicio's precious freight during a tempest, being himself disguised as a humble Indian with a load of *petates*. But the incorruptible saint smelled brimstone and trusted God for an umbrella, whereupon the proffered mats turned to ashes and the Devil behind an Indian mask vanished in smoke. Likewise, the falling deluge was divided asunder, and Aparicio and his charge went dry as a theoretical Kansas.

At ninety-eight this gentle master of hearts went home (8 P.M., February 25, 1600). The manner of his death was as edifying as his life had been to the godly, but is not so vital to our present theme. It is fully recorded in all his biographies and pictured *seriatim* in Bombelli. Of the naïveté of the old artist there is perhaps no better type amid all this naïve gallery than the plate which shows the last breath — brother priests and sister angels bent above the gentle clay from whose lips the soul is issued heavenward in tiny and suppliant effigy. I have known some souls that would not look so well if snapped on the wing.

Then, indeed, came portents in a cloud. Not only were miracles wrought upon the sick and halt by touching the body or the garment of the dead wonder-worker or the earth from his grave; formal inquests certify the miraculous incorruption of his own husk. One of these disinterments and certifications was made in the presence of the Provincial of the Or-

der five months after the burial. June 9, 1602 (or two and a half years after), the grave was again opened by the Commissary-General and his prelates; and on the 28th of April, 1632, after thirty-two years, the illustrious Bishop of Puebla (an Apostolic Judge appointed to prosecute the Processes) again investigated in a formal tribunal with his two fellow judges, in presence of the prebends of the church, the cavaliers and magistrates of the city, and the wisest doctors and surgeons. These found and certified a supernatural incorruption — the flesh soft and unspoiled, the blood still fresh-clotted upon his chest where he beat himself in penance, and a sprig of yerba buena (mint), which had been placed in an incision of his abdomen, 'fresh as if just picked from its native meadow' — although eighteen panniers of lime had been put in the grave.

The indestructible husk of the great tamer was finally deposited in a massy urn of silver, and for centuries rested in a rich chapel in the Church of Saint Francis, in Puebla, but in 1880 was transferred to the great Cathedral.

To the impulsive layman, it might seem that even these few sample miracles might have sufficed to win the official accolade of saint — for which the whole city of Puebla instantly applied and has used ever since. But the Church moves with great precaution in matters of this moment. Beatification is never given (save in the case of a martyr) until fifty years after the death of the subject. It is a most tedious procession even then, being generally the second step toward canonization. First the candidate must be proved and approved a 'Venerable Servant of God'; and then the thirteen or fourteen stages toward beatification drag out for many years, through the

most exhaustive examinations. No court of law in England or America is so strict as to the rules of evidence; no prosecuting attorney is so tireless in disproving the innocence as is the official *Advocatus Diaboli*, or, more politely, *Promotor Fidei*. Beatification can be secured only after this interminable proof of miracles performed before death; and for canonization there must be proof of at least two miracles done *after* death by the candidate or by his intercessions.

The campaign on behalf of Aparicio began within a few hours after his demise, and even before his burial — and was not concluded in one hundred and ninety years. Generation after generation, his cause was pressed at Rome before pope after pope, by kings, princes, priests, viceroys, cardinals, religious orders, universities, colleges, and civic governments. No less than fifteen 'Lives' of him (in Spanish, Latin, and Italian at least) were written by learned doctors, beginning with the great historian Fray Juan de Torquemada, in 1600.¹

No other humble and unlettered lay brother, toiling as a common teamster, ever had so many biographies done of him by so many distinguished prelates and official chroniclers, nor so many letters written about him by bishops, viceroys, kings, and popes: nor no other tamer (there is not even a 'Life' of Rarey, though it would make a 'smashing good story'); nor no other near-husband — twice caught, but still able to plead 'not guilty.' And certainly

¹ Among other 'Lives' are those by Fray Diego Lopez de Avalos, Bartolomé Parejo (a doctor), Fray Bartolomé de Letona, Fray Ysidro de San Miguel (in Naples, 1695), Fray Diego de Leyba (1685, and with portrait), Fray Joseph Manuel Rodriguez (Mexico, 1769, containing the papal decree), the learned Fray Agustín de Vetancurt (in his *Menologio Serafico*), Fray Francisco Arvida (1791).

none of them had ever such a picture-gallery of his intimate doings from the cradle to the grave as the beautiful and fascinating volume of one hundred and twenty-eight copper-plates by Pedro Bombelli, issued in 1789 under the direction of Fray Mateo Ximenez, one of the long line of postulants for the beatification of Aparicio.

As toward the beatification there were innumerable orders, commissions, examinations, disinterments, processes (the ecclesiastical lawsuit in such cases), revisions, 'congregations,' advocates, promoters, judges, attorneys, depositions, evidence all written out, sworn and subscribed 'with endless time, expense, and fatigue.' The voluminous evidence of three hundred and two witnesses had been reduced to writing and put through the interminable red tape of certification before 1695.

Fray San Miguel gives an interesting skeleton of the course of this campaign up to 1695. Many popes were deeply interested, and Pope Urban VIII came very near settling the matter. May 2, 1768, Pope Clement XIII promulgated a decree which seemed to insure the beatification of Sebastian, and all Mexico went wild with joy. The cities were lavishly decorated and illuminated. Every church bell rang its joyous *repique*, sermons and prayers of thanksgiving went up everywhere, and the universal people, who had for well-nigh two centuries worshiped Aparicio as a saint in their homes and in their common parlance, rejoiced in the hope of being able to carry him officially to their church altar. But unfortunately (in spite of Bancroft's slipshod assumption to the contrary), the good man never was canonized, and is only a *beato*.

I do not know how nor why Aparicio failed

of the official crown; for he certainly deserved it much more than any of the other long list of saints canonized from Galicia. But at any rate, in the decree of May 27, 1790, Sebastian de Aparicio was beatified by Pope Pius VI, and is written in the Mexican calendar as *El Beato*. This recognition was celebrated in Puebla on the 26th of October, 1790, and in the City of Mexico, the 25th of November following. These were among the greatest celebrations in Mexican ecclesiastical history.

Mayhap the postulants got tired with two centuries of red tape. Mayhap the two necessary miracles *after* death had become hard to prove — most of the witnesses being probably dead by that time. But it is San Aparicio in the heart of Mexico, just the same — and right they are. Nor do I know any reason, nor fear any odds, why we should not make room in our patriotic calendar for this gentle pioneer of American frontiersmen.

III

THE TRAIL OF THE SERPENT

I

NOWADAYS, nobody else seems to love a snake — I cannot see why! It is one of the most extraordinary things God ever did. The 'Story of the Rocks' proves that it was the biggest of animate creatures that ever lived, and though it has been frozen out and 'enlittled,' it is still the most cosmopolitan of its order, and inhabits all the earth. Since the birth of history it has occupied more of the thought of man than has any other creature, except self and the snake's First Accomplice.

The oldest book that any of us read, the Bible, comes to the snake in the very dawn of creation. God made him before He made man. I do not know how much earlier yet this subtle, competent, and characteristic creature becomes part of folklore; but it is dead sure that the first man that ever saw a snake noticed it, and wondered about it and remembered it, and made it either hero or villain in his first literature — and generally hero.

Curiously enough, the word is not in the English Bible — though our prejudice comes from there; and we have hated this poor, beautiful creature ever since the third chapter of Genesis. The original inhabitant, indeed, was a better naturalist, and had no traditions to make him superstitious; when he found himself 'stung,' and made his historic reply on cross-examination, he didn't think of laying it to the serpent. And since this time, while man is born to be bitten (as Job remarked in effect), only an infinitesi-

mal minority of him could truthfully blame a snake for it.

Many things combine to make it more remarkable that even a misunderstood folk-story should have biased us against what is clearly the most admirable work of animate art. The Bible itself not only contains numerous references to snake-charming, but repeatedly admits that 'Nachash' is the most notable pupil for a wise man's mastery. In the very beginning of the creation of life, the snake is important enough to enter, and we are told, 'The serpent was more subtil than any beast of the field which the Lord God had made.'

Some millenniums later, the First Gentleman advised his followers to be 'wise as serpents.' Menagerie men tell me this is their feeling, and that of all the animals they deem the snake smartest. For several centuries after Christ, there was an important sect which, accepting the Bible, worshiped the snake as the greatest benefactor of the race, because it got 'knowledge of good and evil' into Adam in probably the only way by which the first fellow could have acquired it. For that matter, practically always certain creatures have been the object of primitive adoration; and while from star-worship, sun-worship, and stone-worship up (or down) to hero-worship, man has always had many gods of many kinds, besides his-own-self, the most universal of all theriolatry is to the snake.

All primitive reverence comes from observation, and not by hearsay. Early man revered the things whose potency he could see. And when he saw an eight-ounce, compound 'S' that carried in a tiny mouth the power of life and death quicker and surer than king or czar ever wielded, he, man of common-

sense, looked upon this remarkable creature as something notable. He observed that it was the quickest thing in the world — unless he thought to except lightning and the weather of a woman's mind. He observed that it was the most competent beastie for its weight, the best eater, the best athlete, the best fighter, and the fairest of all the kingdom.

No land has yet been discovered where this cult of might-in-a-coil did not obtain. And if any hasty critic shall throw Ireland in my face, it is enough to say that this is the very first reason why Saint Patrick is revered — because he displaced and deported the old gods of the Emerald Isle!

Even in literature, there is no other beast of the field which figures so largely. He is the symbol of eternity, of wisdom, of healing. Æsculapius could not get along without him; and long before Æsculapius, Moses made a brazen serpent and lifted it up in the wilderness for the healing of Israel.

There has been a long and happy chapter on the snake in its relation to medicine — both the specifics against his hurt, and the triturations, oils, tinctures, saturated solutions, potions, lotions, and other panaceas, compounded of his desiccated virtues, for the redress of nearly every ailment of nearly every organ and faculty (from memory to gall-stones) of his hereditary foe. He was the earliest known palliative for innocence (though we can entirely cure that nowadays, without help of him); and up to date he prescribes the fisherman's first aid. There is no part of him which has not been held efficacious for some malady betwixt toothache and dullness to the charm of woman — and that's a long cry. Sometimes.

And it isn't all ancient. One of our foremost medicos of letters (S. Weir Mitchell) has studied

deeply and written with potent charm almost equally of the two chief toxics that man has known in his varied career. The difference is that no one has ever found a remedy for the less dreaded of the two poisons — unless it be the ligature, which is sometimes effective in both.

The interrelation of snake-poison and others dates, in man's thought, from the year One. Adam had his narcotic at hand, and in the headiness of the very first honeymoon called for no other antidote. But ever since his day we have been seeking a milder. Wherever tobacco grows, it is deemed a double mitigant — and Kipling prescribes it on one side. Wherever the corn is taught to move itself aright, it is taken to counteract the attentions of the party of the third part in the first human drama and to forget the party of the second part. The most popular modern remedy for both bites is whiskey. Beyond question it has saved innumerable lives — by keeping the patient from being scared to death. Possibly that is its only virtue.

The only place I know of where any milder mitigant for snakes than woman, whiskey, or tobacco has vogue is among the Indians of the Southwest, where the most venomous are tamed with the pollen of the corn. But this corn may have originated in Kentucky!

The snake adorned the first American flag. He has been for millenniums the symbol also of safety and guardianship; the Golden Fleece itself was guarded by a snake.

It is hard to understand why we who love grace cannot at least admire the serpent, whose figure has all the curves of beauty put together and made alive. The most matchless woman is a tumblebug compared

to this sinuous creature of ten times her number of vertebræ and none of her entangling appendages — except the mouth.

His unabashed eyes need no lids to outstare the sun; his genius for escape is no greater than his genius for fight. He is the only creature that can swim faster than a fish, climb a tree like a squirrel, and negotiate the land at a gait which taxes a sprinter to catch him. He swims without fins, runs without legs, and comes mighty near to flying, though he has no wings. And he is the only known beast of such cleanly habits as to change his entire hide, from one to six times a year — and any one who has ever observed a snake in its shedding, or found that marvelous cast-off union suit which covered every part of the body from tail to nose, and even the outer lenses of the eyes, must have thought (if endowed with the where-withal) of the cleanliness of that despised reptile.

Being the only beast which is absolutely supple, it can not only come very near to realizing the college song of 'Van Amburg': unjawing itself 'with the greatest facility,' but it can swallow an object of thrice its width. I have never forgotten a boyhood experience with a nice little New England grass-snake burglarizing the virtuous pantry of a 'female college.' It swallowed an egg on the shelf, and crawled through the handle of a pitcher, and swallowed another egg on the other side — and managed to throw the heavy pitcher to the floor and break it all but the handle, which held; and so we caught him half smothered in milk, with the crockery around his midst, and a lump of fully three times his caliber on either side thereof, so that he could go neither forward nor back.

We mere bipeds have much concern of our hand-me-down teeth, but a snake is his own dentist. He

does his own painless extraction, his own plates, bridge and crown work, and filling. His teeth are coming along all the time. I have found, in one not very large rattlesnake, no less than four sets of supplementary fangs, waiting to take the place of the big active fangs in front whenever they should happen to get stuck in some too obdurate heel and broken off.

Man has finger-nails, which are available to open a knife, scratch his head (or some one else's face), and maintain the lady manicure. The horse has degenerated from twenty finger-nails to four — and about all the good they do him is to enable him to trot under whip and harness at the behest of a fool of a master.

But the snake has finger-nails all over — and all of them good for everything. The snake's scales are his overcoat, shoes, stockings, dress-suit, Jaegers, and umbrella; his hair, his armor-plate, legs, feet, claws, wings, hands, ladder, gimlet and shovel, musical instrument, and all the other tools he needs. Did you ever see a snake dig a hole? His front scales (on the head) are the auger; and every lap of his armature, to the tip of his tail, is a continuous trolley to carry back the soil, after the very fashion which he invented millions of years before my wonderful old friend Lidgerwood, inventor of the cable-way, was born. The more one understands the mechanism of a snake, the more one admits the stupidity and the helplessness of man. Every scale is a finger, and every ventral scale a hand. An elephant hitched to a cable cannot make any such resistance in proportion as a snake can make when he gets a 'purchase.'

One of Nature's marvels is the differentiations in the epidermis of living creatures — the loving sun-

down of a woman's cheek; the ossification of a bird's nose for the particular pursuit of the bug; the tenement of the tortoise (which builds its cottage and safe-deposit vault in one piece from materials which other animals would waste on toe-nails); the tarpaulin of the armadillo, which can roll up in a blanket or armor-plate, and grow whiskers in the joints — aye, and such a splendid carapace that in the woodless thirteen-thousand-foot plateau of Bolivia the Serranos use that overcoat for the bowl of their little mandolin.

Beside these the skin of man is dull prose. It isn't sufficient even to clothe him, much less to arm him. Here again he must learn of his first preceptor; and it is a lesson to which he is not like to play deaf.

Of all the humors and the wonders of the innumerable strange things that have evolved of plain skin — the beaks, scales, toe-nails, hoofs, horns, and all — the very miracle is that transubstantiation of a finger-nail into a fire-alarm, police-whistle, and universal 'Lemme-alone'; that unique 'wireless' which is more effective in proportion than any other weapon carried by any creature or invented by men. All the fourteen-inch guns ever cast have not protected so many lives of the owners, inventors, or interested parties as this pennyweight of imponderable cascabel carried by an American snake — the rattle.

This last epidermal development of the life-and-death snakes is a New World product — and almost exclusively of North America, though there are two poorer samples of the rattlesnake native to the southern continent. And of all the music germane to wild nature, there is none so compelling. It may not be beautiful, but in its command it is Wagnerian. No

man or beast ever heard it carelessly. Sometimes a nervous one mistakes the cicada for this war song; but no one ever mistakes this war song for anything else. When they hear it, they know that something is up. No one asks for an encore — but no one goes to sleep, nor even yawns.

And this marvelous music — of a tempo without comparison in any vertebrate (nor even in any musical instrument invented by man) and matched only by the beat of a humming-bird's wings or by the vibration of some of the insects which are not subject to the law of joints — this thrilling whirr, which has distinctive notes, and rises in pitch with the tension of the snake's feelings (just as human beings key their voices higher under higher emotion); this dry chorus which terrifies whosoever and whatsoever hears it, is all made by the simplest, yet the most mysterious musical device ever invented, and by the most highly specialized toe-nail.

There is nothing else like it in nature; and I have never known any one able to explain it satisfactorily from either the musical or the anatomical side. But there it is; a tiny dry husk which is a calendar of its owner's age, a castanet which can be heard farther in proportion to the weight of the apparatus than almost any other mechanical noise, and which carries more conviction than any other — not excepting the voice of gunpowder.

There is no place in the world where any human agency of sounds of good or bad could for one moment divide attention with the br-r-r-r-r-r which this humble and modest worm of the dust awakens when he wiggles the ultimate end of him with real intention. And both ends are alive. While the wonder-castanets are playing their weird staccato,

that magic head, with its other mystery of sudden death, sways and weaves and swings in the very soul of rhythm.

The devil-fish, his methods of 'attachment,' his inky facility for disguising himself, his ability to change instantly from an 'all-day sucker' to a swimming umbrella — these are very wonderful. It is wonderful how flowers are able to live and court one another, and how birds are feathered for the protection of the individual and the perpetuity of their race. But of all the things I know, of all the protective or militant adaptations of Nature, there is nothing so wonderful nor so effective as that exaggeration of the salivary glands in certain snakes — these two hollow teeth in a little, squirming over-worm, with Fate in the holes.

If any man had anything remotely resembling the same potency, it would be a hard world to live in until those few of us who ought to 'have the say' had finished the other cumberers. I have never had experience with cobras nor the classic Old-World snakes; but the chromo 'coral snake' and the *pichucuate* and the moccasin and the adder and the rattlesnake are old friends of mine. And any one who can forget the inherited hate and watch a rattlesnake when you play with him, as I have done thousands of times, and note the grace and competency and withal the timeliness of his actions, will admit that as the stroke of a venomous snake is probably the swiftest distinct act in nature, so probably is the whirr of a rattlesnake's tail the most rapid sequence-motion. No other animate thing can move with the speed of a snake striking. There was a time in my life when I thought there were as graceful creatures, and didn't know nor care whether they also bit. But now my

vote for the grace-contest goes to the snake. Unanimous!

One of the bases of the immemorial snake-worship is of course metempsychosis. Perhaps the oldest precept of this is among the Moquis¹ of Arizona. To them the rattlesnake is an ancestor for whom they perform the marvelous rites of the Snake Dance in their midsummer prayer for rain. And with the Moquis it isn't the Woman and the Snake, but the Snake-Woman. She was their Eve. But the idea is as old as the Himalayas — if not older. The snake is a favorite tenement for house-hunting souls.

It is painful to observe that this virtuous and meritorious beast has gradually acquired in civilization the blame which properly accrued to his side-partner in the first sunken gardens. Already in Revelation we hear about 'That old serpent which is the devil'; and almost ever since then, we have had bad words about the first (if not the only) person that ever imparted imperishable knowledge to a lady. She has forgotten more than mere man ever knew, but she never forgets her first tutor's main gospel — that she better not go bare.

Shame be it to us that the very name snake (without whom we should not have sense enough to make dictionaries or names, and all educational apples were still upon the original sour tree) is from the same Anglo-Saxon root as 'sneak.' I have studied snakes for more than forty-five years, but I have never seen a sneak snake. They go on their way on their own affairs, and they are very assiduous to avoid meddling with other people's business — even the snakes of life-and-death. They never once follow any one to do harm. They merely

¹ Generally miscalled Hopis.

stand on their rights. If some clumsy intruder tramps upon them — biff! I wish that all humans were as fair. No snake was ever a dynamiter, a blackmailer, a footpad, an assassin, a backbiter, nor really a 'snake in the grass' as we mean the term. It takes people to be these things.

The real measure of the success of a beast is its adaptability to its environment. The test and proof of this adaptability is written on the geologic page. The creature which could not persist against its environment and the changes thereof has perished. The two most perfect creatures of the animal kingdom are the cat and the snake — the most self-sufficient still and the most unchanged from the earliest times, because they had least need to change for any environment whatsoever. They were elastic enough to 'light on their feet' from any fall — even into civilization.

Compare the fool hen with the wise partridge, the poodle with the wolf, the race-horse with the eohippus, the club-lady with the cave-woman, for physical and mental variation, up or down — and then compare the staunch persistence of cat and snake through all the æons.

It seems almost materialistic after that to remark that the snake is one of the greatest utilities in the animal kingdom in preserving 'the balance of life' and commerce. Without snakes, we should be overrun with vermin, and the industry of farming, upon which all other industry depends, would have perished long ago. If it were not for the reptile appetite for grasshoppers, mice, and 'such small deer' (pests that do eat vegetables, none of which have anything to do with even the roots of the Tree of Knowledge), we'd all be eating mice instead of grain; if, indeed,

the mice should not have perished long ago, after devouring everything they could relish. I only wish that the first (and last) gopher had been at that root, for I am sure that the serpent would have been on his job — and this would have saved much gray hair and profanity from the whole Southwest.

Of Lincoln's inclusive genus of 'Those that ain't so,' there is undoubtedly no other creature of which there are so many varieties. No other animal has been so innumerably multiplied in the minds of the imaginative. One of the most brilliant newspapers in the United States was famous for years for its snake yarns; but even the 'Sun' never engaged prevaricators competent to cope with popular superstition. And I do not know that we should find much fault with the savages who saw strange snakes. As a New England boy, and as a traveler through all parts of America since, I have learned from my own people about the 'hoop snake,' who takes his tail in his mouth and rolls downhill after you, like an avenging wagon-tire; and about 'glass snakes,' which when hit break into many pieces and come together again; and about all kinds of snakes which do not die when killed — unless their tails stop quivering before sundown!

If sometime the Kindergartner who antedated Froebel by several thousand years shall come back to his own, we will cultivate him. Any one that ever had mice (and a mouse is the one thing that a woman hates even worse than she does a snake) ought to make up to the useful Ophidian. Mouse-traps? Cats? Why, a good gopher snake is a perambulating and follow-up mouse-trap. He doesn't even have to sit at the mouth of the hole to wait for Mr. Mouse to emerge. Not at all. Three feet to six feet of

striped grace slips down the hole to its innermost recesses, finds the pestiferous rodent, and 'welcomes him in.' It is no joke that the Indians and Mexicans of the Southwest, and such Americans as have been able to learn anything therein, do keep gopher snakes as mouse-traps. It was the common custom even in the Antilles, recorded in 1658; and the able English pirate Dampier wrote of it in Central America in 1676.

Incidentally, the commercial traffic in rattlesnakes alone, in the United States, amounts to several hundred thousands of dollars annually. Showmen find them good for the pulse-at-the-gate; with the Chinese they are a standard base for many remedies; their venom is used medicinally by some of our most progressive doctors; and rattlesnake oil is always steady on the market — particularly as a cure for rheumatism. In all decency it should have cured mine! For the beastie never had a better friend.

II

The greatest snake-story in the world began when the new and bigger half of the world was found (slowly and piecemeal) by Columbus and his many successors. It is recorded in many tomes by some of the most remarkable students that America or any other country ever saw. Greece had one Herodotus — America, critically speaking, had four. Such works as those of Gomara, Herrera, Torquemada, Acosta, and many lesser lights before 1600, had never parallel in what is now the United States. The leaders of the conquest of the Americas were, almost without exception, college men. The missionaries were, of course, highly educated. The flora and fauna, the topography and the ethnology of the three

Americas received at the hands of these gentlemen and scholars such record as seriously puts us to blush.

It was not merely the scholarly instinct of men pricked with high adventure and alive with mediæval faith that insured us such a record of our own country in its earliest stages as we have never had since. In those days, things were done orderly. Every exploration, every expedition, was under direct orders from the Crown of Spain. It was hemmed about with as much red tape as one of our Government expeditions — but all reasonable. Among other things, every expedition had to have a diarist, who kept a *diario* every day of the journey, recounting the leagues traversed, the rivers crossed, the natives encountered, and every other detail of possible concern to science or to the State. Every explorer had to report fully and precisely upon the lands he found and traversed: as to the natives, the trees, the bushes, the flowers, the birds, the animals, the snakes, the mountains, the character of the land and its suitability for cultivation, the customs of the Indians, their languages, their superstitions, their numbers, their architecture — all there was to be known.

As I have said, these explorers, whether military or missionary, were all educated men. The flora and fauna as well as the natives of the New World were of infinite novelty to them. They could not help being impressed, and under their strict discipline they had to report in full.

There is no other country in the world where there are rattlesnakes, humming-birds, condors, peccaries, and very many of the other things the Spanish pioneers found in the Americas; and thanks alike to their own alert intelligence and to the strict Gov-

ernment requirement for accurate and full reports, we have from them for all three of the Americas an incomparable mass of information of every sort.

Not the least interesting of this is what they acquired of Indian tradition concerning the creatures and the plants, which they themselves described accurately, but as to which the natives had fantastic beliefs.

Among all these chroniclers there is perhaps none more fascinating than that learned Franciscan who was one of the first missionaries in the New World (coming a handsome young *fraile* of twenty-nine), Fray Bernardino Ribiera, commonly known as de Sahagun, after the town of his birth in Spain.¹ All his records are good reading; but when it comes to snakes, there is nothing in history to match him. Even our eminent modern Cope and Stejneger and Ditmar, whose books are essential to any library, may be more specific, but certainly are not half so

¹ Fray Bernardino Ribiera de Sahagun was born in Spain in the year 1500, coming to New Spain (Mexico) in 1529. For sixty-one years he toiled and studied in this new land, becoming probably the most proficient of all his contemporaries in the linguistics of Mexico. Mendieta, in his careful 'Historia Ecclesiastica Indiana,' freely gives him this rank.

De Sahagun spent thirty years in preparation for writing his great book (which gives us more of the early history of Mexico from the inside than any other); but the General of the Franciscan Order seized his work, and it was many years before Fray Bernardino could get it back again and renew his labors. He was already eighty when his remarkable book, which may be called by translation 'General History of the Things of New Spain,' was at last restored to him. But he began to rewrite it, the Aztec text in one column, and the Spanish in another. For more than two centuries his book lay buried in the convent of San Francisco de Tolosa, in Navarre, Spain, and it was not until 1829 that it was printed, being then issued by the eminent Mexican scholar Bustamante. And like most of the real history of early America, and the real romance and beauty of the most fascinating discovery and conquest ever made by man — you can't find it in English.

interesting. For Fray Bernardino described the snakes, not in tiresome scientific terms, with lettered diagrams of partlets, but with the eloquent imaginings of his Indian informants. He certainly set down naught in malice, and of the folklore it is rather evident that naught did he extenuate.

He is the best snake-yarner in the whole category — though many others touch here and there this joyous subject; and I do not know of any better tract for a Keeley Cure establishment than a little pamphlet translating Father Sahagun and his fellow chroniclers, giving a few of the most desirable (or undesirable) reptiles that infested our fair land prior to 1590. That was the year in which Sahagun died (aged ninety). His remarkable book gives more of the early history of Mexico than any other known work.

We need not be surprised at any snake creed, for if it be not like the divinity which doth hedge a king, there is about it, to every one, from the lowest to the most learned, a certain mystery and a certain romance. It is easy to believe almost anything of this strange creature, which is so like us in the major ways, and yet so unlike us superficially. If learned theologians can believe that a snake talked to a woman and gave her the key of knowledge which God had withheld, it surely cannot seem strange that the unlettered should harbor equally remarkable beliefs as to the talents of the serpent.

But the symposium recorded by Father de Sahagun is at least more inventive. Here we have sharp-shooter snakes who knock a bird from the top of a tree with their venom; target-shooting snakes which go out and ring the bell on a tree before tackling real game, so as to test their range and their wind gauge;

snakes that have invented a bird-call and can whistle a quail to them by imitation of the mate's voice; snakes that fly even as the fiery flying serpent which the Bible so numerous records, snakes which not only fly, but with such speed that you can feel the wind as they pass; snakes that are square as a sheet of paper; snakes that are round as a ball; snakes that weave themselves together like an old-fashioned rag carpet; and snakes whose breath is strong enough to rope and drag in to their nest a full-grown deer or a strong man.

And above all, snakes which are a combination breast-pump and dry nurse. It is not surprising that the observant naturalist of the older days found a snake which scared people to death. Probably he was the vicar of his kind; and while other snakes killed people each in his own appointed way, this eminent serpent was chosen to stand for the moral effect. Of *Tetzauhcoatl* — which means 'snake that kills with fright' — de Sahagun says: 'It is neither great nor long. It has the breast red, and the back like a live coal. It rarely appears, and he that sees it takes such a fear that he dies of it, or remains very sick. For this reason they call it snake that kills with fear.'

A good many of the traditional snakes of the New World are 'birds,' but there was a specific quail snake: 'There is another snake which is called *Col-coatl*, which means the snake enemy of the quail, because it lures them with its song. . . . It is fraudulent, and fools both quail and persons. It sings like the quail, and the quail that hear it come, thinking it is another quail, and it snatches them and eats them. Some stupid Indians when they hear its song think it is the bird, and go toward where it is, and then it pricks and kills them. Those who are advised, when

they hear this snake sing, listen if another quail answers it; and if there is no answer, it turns to hiss, and they understand that it is this snake Colcoatl, and guard against it.'

The aptness of primitive nomenclature always strikes the student with a sense of relief as against the generally stupid christenings of our mother tongue. There is always something of poetry in a fitting name — and in the ability to find it. Here, for instance, is the 'Tale-Tattler Snake.' As Fray Bernardino remarks: 'There is a snake in this country which is two-headed, one head being in the place of the head and the other in the place of the tail. It is called Maquiscoatl. In each one of said heads it has mouth, eyes, tongue, and teeth. It has no tail whatever. . . . It goes in both directions, sometimes the one head leads, sometimes the other. This snake is called 'the frightful snake' (this is the meaning of the name). The Indians have certain auguries concerning this snake. A tale-bearer they call also Maquiscoatl, by the name of this snake, because they say he has two tongues and two heads.'

Perhaps it would take more than a common anthropologist to dissect as between the God-Snake, the Snake-Woman, and 'Just Snake.' They have been mixed up from the beginning, in ordinary lore, and they are almost inextricable in the lore of less illuminated people. The winged serpent, and the serpent with feathers on it, are widespread. In ancient Mexico about the strongest god was Quetzalcoatl. It would take two or three books to tell about him either as a god or as a snake with feathers. But as we are just now dealing less with gods than with snakes, we will simply quote Father de Sahagun:

'There are very many of these Quetzalcoatl in the

Tierra Caliente of Totonacapan. It is medium size, of the water snakes, and is called Quetzalcoatl because it grows feathers of the same sort as the rich plumes which are called Quetzalli. . . . On the tail and rattles it has feathers like the bird which is called Xiuhtotol. . . . Whomsoever it bites, quickly dies. This snake flies when it wishes to strike; and when it does this, it also dies, because it ejects at one blow all its poison and therewith its life.

'There is a serpent in this country which is called Mazacoatl [deer snake]. It is very great and thick, of dark gray color; has rattles on the tail; and on the head horns like a deer. It dwells in the roughest mountains, and when it arrives at perfect age, it betakes itself to some cave; and from there, without going outside, attracts, with its breath, rabbits, birds, deer, and persons. . . .

'There is another snake which likewise is called Mazacoatl. It is small, dark, has horns, and does no ill nor has buttons on the tail. Of the flesh of this, those make use who desire virile potency, that they may account with many women. Those who use too much of the flesh of this snake . . . die of too much desire.

'There is another snake which is called Tetzno-coatl. . . . It is very poisonous and attacks people, as if flying. It twists around the neck and kills. It constricts so tightly that there is no one that can overpower it, be it beast or man.'

It is sort of rubbing it in to be able to poison people and to choke them to death also. Either ought to be enough. It recalls the classic phrase duly amended to modern needs:

'Insatiate bow-and-arrow-man, would not one suffice?'

The fire-carrying snake, which totes a shorter

burden of name, and gets along with only five letters, or Tleoa, 'flies above the plants and herbs, and when it does this, it goes upraised upon its tail and flies like the wind. It is called the Tleoa because whomsoever it wounds or bites seems to be burning with fire, and there is no remedy against this poison.'

Probably the single-suit ladies who dive delectably in vaudeville could detract much attention from him; but in parallel tanks, the Xicalcoatl would take at least part of the applause. For he is longer and more colored than any lady swimmer, and his trick is at least as ingenious — if practically to the same intent.

'There is another snake [says Father de Sahagun] which is called snake of the *jícara* [the *jícara* is the painted gourd out of which the ancient Mexicans took their drink]. . . . They abound in the water. When they are great, they have a back naturally formed like the *jícara*, much painted with all colors and all designs. This snake, when it wishes to catch persons, goes where the travelers pass and shows the *jícara* shape above the water in which it goes swimming, and hides itself below the water that itself may not appear. And those who pass by there, when they see the *jícara*, go in to get it, and little by little it goes toward the deep water, and he who is going to get it follows behind, and when he arrives where it is deep, the water commences to disturb itself and makes waves, and he who went in to take the *jícara* is drowned.'

There is no better meat in the world than that of the snake. I have often eaten rattlesnake myself, and it is at least as good as eel. It has been a custom of very respectable antiquity — for Pliny in his seventh book tells of it in India, in the first century of the Christian era; and Dioscorides says that it is 'very

beneficial for the preservation of the eyesight and fortification of the nerves, but that the head must be cut off and also the tail, and that it must be skinned and cooked in oil or in wine.' The great Mexican historian Torquemada, in 1609, tells of the splendid Mexican feasts of the beginning of the year, when they gave all sorts of gifts and made all sorts of banquets in which there were turkey, quail, rabbits, deer, and dogs — 'also snakes and rattlesnakes which the hunters caught as much to show the grandeur of the banquet as to give food to the old men who eat these rattlesnakes as if they were partridges. And that there may not seem to be any novelty in this food, and that it be not attributed to patriotism, I remark that it has been a custom in other times and may be in times to come.' Then, quoting Pliny and the recipe for cooking in oil, not wine, he adds: 'Though these natives didn't cook the snake in wine, they put so much wine on top of it that they drown the poison if any remained, and in this fashion they found it very beneficial.'

The eating of rattlesnakes was also customary in Florida and other parts of the New World at the time of the Discovery.

The only thing I know of soberly against a snake, and chargeable to his discredit, among really thoughtful people, is the smell of him — and that is doubtless due to the historic odor which has been given him since the childhood of our race. I do not remember in literature any reference to this curious odor which is familiar to all who have handled snakes and obvious to those creatures which retain use of their noses except for ornament (a man carries this promontory only for looks, since he cannot really smell with it, and a woman carries it for looks and also to

smell things that 'ain't so,' like fires, burglars, rivals, and other false alarms). But a horse, dog, cat, elephant — and even a bird — can smell a snake as far as they can see it.

So it is somewhat strange that among the million who have told in folklore or in type about the various virtues, dis-virtues, and damnabilities of the serpent, no reference is made to his one real fault, though a thousand to fictitious ones. The nearest I know is given in the insatiable de Sahagun, who records the 'stinking snake,' Palancacoatl, which is 'so called because it seems to have wounds all over the body, and the flies come behind it buzzing. It is very poisonous, and he who is bitten does not escape. . . . He rots and thus dies.'

And Bustamente adds his scholarly note: 'There are these snakes to the south of Acapulco. One poor fellow went to sleep under a tree where this snake was coiled. It threw its slaver over him and in a moment the man commenced to gangrene and he died. The word Palancacoatl, in Mexican, is "to rot"; whence this pestiferous and venomous reptile takes its name.'

'No ends of snakes' is common English as she is spoke, but I think that in all literature there is only one snake that has no end. Like the historic coward of frontier lore, it's still running. Father de Sahagun tells thus of the Macacoatl of Mexico: 'They are thick as the thumb — but as to their length, no one knows what it is, because no one who sees this snake has ever seen the finish of it.'

To any one who has chopped and crawled through the forests of the Amazons, and encountered the liana snake, there comes a little special interest in this record by the distinguished Spanish explorer Ulloa in 1735: 'The *bejucos* [cane snakes], which are

very numerous, have their name from their color and shape, resembling the ranches of the *bejuco*, and, as they hang down from that plant, appear as real parts of the *bejuco*, till a too near approach unhappily discovers the mistake; and though their poison be not so active as that of the others, without a speedy application of some specific, it proves mortal.'

Almost as talented as the fiery flying serpents of Scripture is the Ecacoatl: 'It is not poisonous, but when they do it harm, or when it hunts, it wraps itself around that which it wishes to kill, and kills it by constricting. This snake is called Ecacoatl, which means "Snake of the Wind" because when it goes to any place, if it is smooth land, it goes raised upon its tail as if flying; and if there are plants or grass, it goes on top of them the same; and wherever it passes, it appears to emit a light wind.'

That fascinating old million-dollar English pirate Dampier, writing (in the 1690's) his two fat little volumes wherein his murders and plunderings are partly excusable by reason of his flavorsome account of the country, has something to say of the boas of Central America: 'It is reported that sometimes they lurk in trees; and that they are so mighty in strength as to hold a bullock fast by one of his horns, when they happen to come so near as that she can twist herself about the limb of the tree and the horn at once. These are accounted very good meat by some, and are eaten frequently: I myself have tried it for curiosity, but cannot commend it. I have heard some Bay-men report that they have seen some of this kind here as big as an ordinary man's waist; but I never saw any such.'

John Boyle O'Reilly never heard of de Sahagun nor the Aztec serpent with more buttons to its name

than to its tail — the Tecutlacozaui. Yet his 'Dukite snake' of Australia had a parallel in the New World. The Mexican 'Dukite' has other names and other attributes. And I do not know of any other man or serpent which can knock its game out of the top of a tree with a spit-ball. Says the good *frail*: 'There is in this country [Mexico] a snake which is called Tecutlacozaui. They say it is the Prince or Princess of all snakes. . . . It is of a great head, and likewise the mouth. . . . It has thick scales, is of a yellow color like the flower of the calabash, and also it has some black spots like those of the tiger. The rattles are grayish and hard. This serpent . . . eats rabbits, jackrabbits, and birds, and whatsoever class of animals; but although it has teeth, it does not bite them but swallows them, and there it digests or comminutes them. If it comes upon any bird, it swallows it whole; and if they are in the top of some tree, it throws its poison at them, wherewith it makes them fall dead. A hunter saw the manner they have in hunting birds or animals which are on the top of trees. This serpent always goes accompanied with its female, and she with her male, although they always go one separated from the other, and when they wish to come together the one hisses, and quickly the other comes; and if any one kills either of them, that which remains pursues the killer until it is avenged. In the rattles it appears how many years this serpent has, because in each year it produces one button. This serpent cannot go on smooth ground, but goes on top of the grass and plants as if flying. If one does not harm it, neither does it do harm. The manner they have to hunt this snake is with tobacco, with which all poisonous snakes are taken and tamed. The fat of this snake is medicinal for the

gout; anointing it where the pain is, quickly the place is placated. The skin of this serpent is medicinal for fevers, if given . . . ground, as a drink.'

Ulloa, scientific observer as he was, and careful to discriminate between what he saw and what he heard, gives us a good snake-story from Panama: 'It is constantly asserted in this city that this neighborhood produces a snake having a head at each extremity; and that from the bite of each a poison is conveyed equal in activity to that of the coral or the rattlesnake; we could not have the satisfaction of seeing one of these strange species, though we used all the means in our power to gratify our curiosity. According to report, its usual length is about half a yard, in figure perfectly resembling an earthworm. Its diameter is about six or eight lines, and its head different from that of other snakes; being of the same dimensions with its body. It is, however, very probable that the creature has only one head, and, from its resembling a tail, has been imagined to have two. The motion of it is very slow, and its color variegated with spots of a paler tint.'

As to the rattlesnake, Ulloa gives his experience of it in Central and South America: 'The cascabel or rattlesnake seldom exceeds two feet or two feet and a half, in length, though there are some of other species, which are three and a half. Its color is brown, variegated with deeper shades of that same tint; at the end of its tail is the cascabel or rattle, in the form of a *garbanzo* or French-bean pod, when dried on the plant, and like that has five or six divisions, in each of which are several small round bones; these, at every motion of the snake, rattle, and thence give rise to its name. Thus Nature, which has painted the coral snake with such shining colors that it may

be perceived at a distance, has formed the latter in such a manner that, as its color renders it difficult to distinguish it from the ground, the rattle might give notice of its approach.'

De Sahagun is somewhat explicit on that variety of rattlesnake which in Mexico is called Chiavtl: 'It is fearsome. It pricks, kills, and waylays those who pass along the roads. It places itself near the path, a little aside, so that it can spring to strike him that passes. And first it proves itself on a tree, leaps against it and bites on it; and when the traveler comes, it does the same to him and kills him. This snake is very fierce, and does more harm in the times of the rains, because then it has more poison; and this also in the morning, because in the midday and in the evening its poison has not so much force. When it bites, the bite quickly swells and begins to exude water; and if this bite is not succored promptly, the bitten one dies; and if it bites on the foot or on the hand, even if he does not die, the bitten part dries up.'

The wise Padre Clavigero in his important work on California mentions the Ahueyactli (of course an Aztec word). He gives due credit to the rattlesnake for its mortal capacities, but puts the Ahueyactli first, explaining: 'Another man, bitten on one foot, spouted blood from his mouth and died quickly, in spite of the most efficacious remedies which the missionary in person applied to him. But perhaps this one was not bitten by a snake-of-the-rattles, but rather by those which the Mexicans call Ahueyactli, which are more poisonous and cause one to spit blood from the mouth and nostrils and ears and even the eyes.'

Etymologically this is the same snake which de

Sahagun calls Aveiactli: 'There is a very great serpent [says he] which is called Aveiactli, long as a log of ten fathoms. It has *cascabeles* or *eslabones* on the tail. . . . This snake breeds in the Tierra Caliente, especially in the Province of Totonacapan. It bites, pricks, and swallows. It lies in wait for travelers on the roads. It presses itself in the narrow passes, and thus lies across the middle that no one may pass without its seeing him and catching him; and if any one seeing it, flees, promptly it goes after him as if flying. Those that know already these serpents or snakes carry many papers made like balls and full of *picietl*, or wild tobacco, ground fine, and pelt them with these; or they carry some little jars full of this same herb, and likewise they pelt them with those. As the jar is broken and the *picietl* is scattered, with the powder of it the snake becomes drunk and goes to sleep, and when it is asleep, with a stick or a long rod they put in its mouth a *manta* in which is wrapped the ground herb, and then the snake loses all its senses, and so they kill it. When this snake comes to springs of water, it eats and swallows whatever fishes and animals that are there.'

The rug snake (named after *petate*, the sleeping-mat of ancient Mexico) is another peculiarity of that region, and of old times. Here again the invidious might suspect some connection with the prehistoric and still prevalent aboriginal custom of Mexico of sewing the bridal pair up in their two *petates* and leaving them to their temporary fate. De Sahagun says: 'There is another snake which is called Coapetlatl. It is wide as a sheet of paper, and in the one corner it has the head, and in the contrary corner it has the tail. It goes sideways like a crab . . . making a noise as when the *petate* is dragged.'

But the rug snake has another manifestation, of which Fray Bernardino says: 'There is another monstrosity which is called Petlacoatl. It is said that many snakes join this, interweaving themselves like a *petate*, and go hither and yonder, because they have all the heads outward; the weaving is surrounded with heads of snakes. Of these they recount certain superstitions.'

Nor is the ingenuity of the serpent confined to weaving itself into a door-mat with a thousand heads for a fringe. The same eminent authority (de Sahagun) tells us of ball-snakes: 'They say that there are some snakes which make themselves all together like a round ball, the tails within and the heads outside. They go rolling, and this is called *barajon* of snakes [from *baraja*, a pack of cards]. If any one meets these, they quickly disentangle themselves and go fleeing in different directions. . . . There is another which is called round snake, because like a round ball, and black as rubber, and its head and tail like a snake's in the middle of the roundness.'

Obviously, any circus would pay a fortune for any one of these marvelous serpents that once made life interesting for the early Americans. Not even a side-show barker has dared to suggest, from the safe outwardness of the tent, such marvelous things as the sober ecclesiastic records. Any one of these creatures in action would be better than a gold-mine for its lucky exhibitor.

But the choicest of them all — the smartest snake since that mighty one which changed the world's history (and surely related to it, but evidently showing progress after a few millenniums) — is the Metlapilcoatl.

If evolution had developed him to his present wisdom by the time of the Garden of Eden, there would have been a very different story: certainly if he had played wet-nurse to Cain and Abel or their descendants.

Every one knows of the *metate*, the Aztec name of that same old handmill which the Scripture tells about; the little stone washboard on which the grist of corn was ground out with the upper millstone which was a small slab easily grasped in the hand, and called in Spanish *mano*, or hand, but in Aztec *metlapil* or 'son of the millstone.' And the Metlapilcoatl is the snake that looks like this very first device for making flour. The average *metlapilli* is about one foot long, three inches across, and two inches deep; rounded on the upper side for easy grasp, and flat below, that it may scrape close acquaintance with its mother's breast, the sloping slab of lava, or sandstone, of the *metate*.

'There is another snake,' says de Sahagun, 'which is called Metlapilcoatl, which means rolling snake, like the stone with which the women grind. This snake is thick; and if seen from afar it does not appear where it has the tail nor the mouth, since it appears that it has a tail at each end. It is dark gray, glides when it goes; on occasions goes rolling like the grinding stone. It is not poisonous; does no damage; breeds in the Province of Totonicapan.'

A note of the foremost Americanist who edits Father de Sahagun adds the finishing touch; ¹ 'I understand that these domestic snakes dwelt in the temples of ancient Greece, of which the historians speak so much. Among the Indians they are domesticated; and they suck the breasts of sleeping

¹ Bustamente, III, 215.

women, pushing the children away from the breast of the mother and putting the point of their tail in the children's mouth to quiet them.'

If this isn't the Yankee-est snake that ever thrived, and the star boarder, and the best lawyer, then I don't know snakes when I think I see them.

A curious side-light in this case is given by the little-known modern book 'Emigrant Life in Kansas,' by Percy G. Ebbutt (London, 1886). Mr. Ebbutt was a British younger son, and moved out with as notable a concatenation of tenderfeet as perhaps ever went West in one family. His book is a most unconscious piece of humor; but he seems honest and intelligent, and I think believes the following personal story which he reënforces with an illustration by some Kansas 'artist': 'On one occasion Humphrey went out to feed the hogs, and upon looking into the sty occupied by the old sow and her family of ten, he found a rattlesnake lying with the busy little ones, taking some refreshment. They all seemed very happy together, with the exception of one poor little fellow, who was of course crowded out. Humphrey called us all out to see this curious sight, and then the snake was dragged out and killed with a pitchfork. Some people might doubt the accuracy of this statement, and I almost think that I should had I not seen it myself. I had heard before of cows being milked by snakes, but not pigs, as the two are mortal enemies; but in this case the old sow was asleep, or she would not have allowed it.'

It is, indeed, notorious that the snake, though not itself a mammal, cannot be weaned. It loves alien milk of any sort — except that of human kindness, of which it has never been able to find so much as one square meal. Personally, I have never known it to

nurse anything nicer than a pitcher of milk; but Mr. Ebbutt has strong corroboration from away back. John Ashton, whose amiable volume ¹ presents much snake-lore from classic and Old-English writers, notes this nursing proclivity. For instance, from Edward Topsell's 'Historie': 'The Latines call it Boa and Bova, because by sucking Cowe's milke it so increaseth, that in the end it destroyeth all manner of hearde cattell and Regions. . . . Their fashion is in seeking for their prey among the hearde to destroy nothing that giveth suck. . . . But they reserve it alive until the milk be dried up, then they kill and eate it, and so they deal with whole flocks and hearde.''

And the Laidley Worme ² of Lambton, England, grew so great that it 'became the terror of the country, and, amongst other enormities, levied a daily contribution of nine cows' milk, which was always placed for it at the Worm Hill, and in default of which it devoured man and beast.'

Ebbutt also hits upon some distortion of an ancient truth: 'A pig, if attacked by a snake, if it is a venomous one, will lay down and present its face and let the snake bite it in the cheek several times, where it seems to take no effect. When the venom is exhausted in this way for the time being, the pig will get up and calmly take hold of the snake and rend it to pieces. In the case of a non-venomous snake, the pig will not take so much trouble, but will at once attack it and eat it. So much for the instinct of pigs.'

The only two creatures I know, outside of his own genus, where the king-snake is his lord (for Rikkitikivavi is only hearsay to me), that can master venomous

¹ *Curious Creatures in Zoölogy*, Cassell, n.d.

² Surtess, in his *History . . . of Durham*, 1820.

snakes without other weapons than their own abilities, are the deer and the pig. The razor-back hog of Virginia and the peccary of northern Mexico do not, indeed, invite a snake to bite them first, *à la* Ebbutt. Neither does the deer. But they are entirely competent when they meet a rattlesnake. Particularly because evolution has taught them the truth about their defensive armor.

The leanest razor-back (which, if we may believe the local traditions, can saw a fence rail in two by rubbing it from below a few times with its back) is not cushioned like a Berkshire pen-fed pig; but after all, its whole exterior is covered with an armor almost bloodless. No rattlesnake ever lived that had fangs long enough to penetrate to a considerable blood-vessel of any pig. And so Mr. Porker can wade into the combat with a security of mind bred by millenniums of experience.

The deer has no fat to his legs, and also very little blood; he is also as agile as a peccary; and these two natural snake-masters follow the same procedure — namely, to jump up in the air and light on a coiled snake on tippy-toe like an Orpheum dancer, puncturing and cutting him with their sharp toes, even as the aforesaid dancer punctures the forward row of the less hirsute of her auditors. I have never seen a razor-back tackling a rattlesnake, but there is abundant evidence of their success and their habit in this case. Deer and peccary I have seen several times — and some of them spoiled snake-skins that I wish I could have saved.

Speaking of snake-skins, there is a curious fact which seems to be little known. The mouse has no such bitter enemy as the snake, and among all the skins of all animals I have kept by me as mementoes,

the only one which mice ever attack is that of the snake. They will eat a snake-skin every time if it is where they can reach it; and they are particularly fond of the rattles of a rattlesnake. Out of scores of rattlesnake-skins which I have tried to save, all have been destroyed by mice that were within their reach.

And in 1884 I had a very curious personal proof of this strange appetite, which is perhaps a poetic justice on the part of the mouse or a blood feud against its worst enemy. It was when I was walking across the continent, and, having escaped the mountain snows, sat down in the office of the 'Albuquerque Democrat.' It wasn't very much of an office in those days, and I had a candle to write by. The paste-pot was handy, and beside it I laid my sombrero. A few weeks before I had killed a bully rattlesnake in Colorado and had wound its hide around the hat for a band, turning the rattles up. A little mouse kept running out as I wrote, and I thought he was after the paste-pot, as printers' mice generally are. But when I picked up my hat, a little later, my beautiful skin had lost its trophy — the rattles were eaten off.

I do not blame the mice; about their only chance to 'play even' is this posthumous revenge. But after a few years of experience, and after losing most of my snake-skins, I have learned to keep these in mouse-proof cases. And here again the curiosity is piqued: why can't women and mice get together in a combine against the snakes?

How much more talented the snake is than his human enemy — or any other of his enemies — is indicated by his diversity in that matter which is the first thing and the last thing and the best thing in the world: namely, children. Some snakes are as clever as hens and lay their eggs to be hatched in the

sunny sand. But other snakes are viviparous, which is as clever as mankind has got. And they beat mankind; because, instead of singlets or occasional twins, or rare triplets, they have a whole nest of twelve, and up to twenty, at one litter. And every one of the undelivered snakelets (if one take a Cæsarian section) is on to its job.

I suppose no naturalist has ever failed to wonder what the human race could do if it were half as smart in proportion as snakes, fleas, mosquitoes, and all such small deer. And the real chief virtue of any scientific study (whether historical or archæological, ethnological or zoölogical) is to take out a little of our conceit. We are pretty good alongside our neighbors, but in scientific comparison with the tiniest beast that roams the plains or infests the air, we, by the record of the centuries and the testimony of our times, are proved still at the Primer Age.

IV

ORANGES THREE HUNDRED YEARS AGO

I

IN a New England town sixty-five years ago an orange meant something; it was as rare as the Apples of the Hesperides. One merchant kept a few; mostly for sick folk. A fortunate child got an orange once a year — in his Christmas stocking.

These Italian oranges (California had not yet come into the market, much less Florida) were medium sized and right sweet, and the staple price was five cents. Five cents was a large denomination sixty-five years ago in New England, when a whole barrel of the finest Baldwin or Russet apples, hundreds to the barrel, and the barrel thrown in, sold normally at one dollar, and one could have a cellar full all winter. But the orange, by its golden glow, its rarity and its luxury, had a magic appeal. And that magic appeal has run down through the ages.

No doubt the only permanent good a study of history can do any one is by taking — if, indeed, it shall be able to take — the conceit out of him. There is no virtue whatever in the ability to patter dates, which so many confound with a 'knowledge of history.' Dates are accidents — if there are such things — whereas history is a record (no matter how stupid many of the bookkeepers have been) of the inexorable procession of cause and effect. It is a footing of the experience of mankind; and its largest value is to dissuade men from being so many kinds of fool again. Perhaps no other one thing is so potent

to keep a person from ever really knowing anything about any subject as the facility and taste to smatter its empty formulas by rote. And *per contra*, common-sense has no better tool than a good working knowledge of what others have done, why they did it, and what they got by doing it.

One of the earliest and most valuable lessons history teaches to such as can be taught anything is that you and I and our times are not the earth and the fullness thereof, but mere drops in an inevitable tide; that we did not originate human nature, and that we have not 'cornered' it; that we are not so smart as we thought. Incredible as it may seem, there was some world before we got here. And when we can face and begin to grasp that inconsiderate truth, we are in a fair way to be able to get some good out of history.

Most Americans know an orange by sight, and we of California count it a blood relation. We do grow the best orange in the world and ship forty-nine thousand carloads of it a year; and we have a modest notion that we invented it.

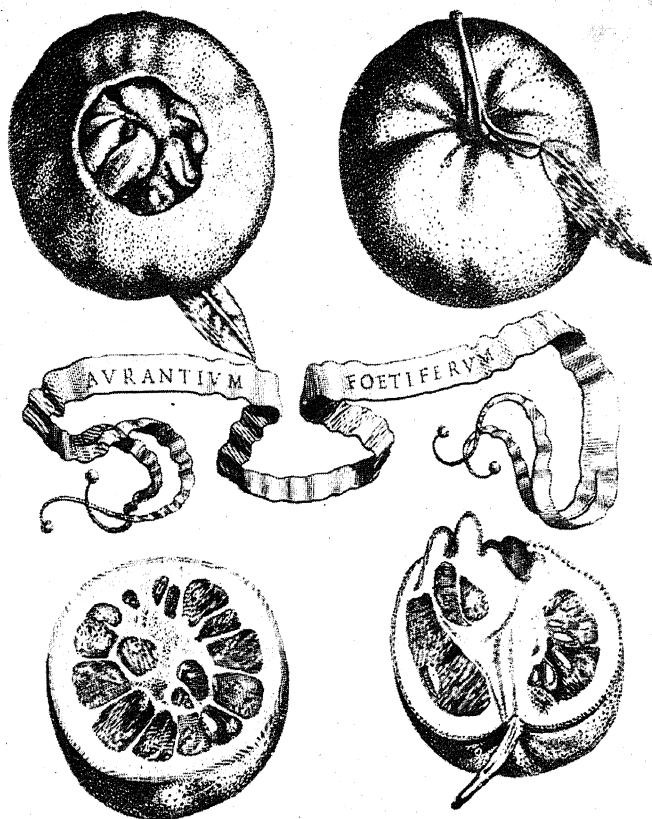
But quite on the contrary, the magic apple is not our patent. Two hundred and eighty-three years ago in Rome (in 1646) appeared a tall folio quoting one hundred forty-eight still earlier writers on the same subject, and describing five kinds of citrons, five kinds of limes, forty-seven kinds of lemons, and twenty-one kinds of oranges — rather more citrus varieties than are familiar to-day.

What is more, this venerable work, by John Baptist Ferrarius of Sena, describes and pictures seedless oranges, and even the peculiar 'sport,' now an established variety, which we know as the Washington navel. Two hundred and seventy-five years ago it

was called the 'female, or foetus-bearing orange' (*aurantium foemina, sive foetiferum*); but no one to-day can draw a better picture, nor a more unmistakable, of a navel orange, and for that matter the characteristic growth from which our modern name derives is in this book called the 'umbilicus' — the precise Latin (and English medical) word for navel. This old prototype of the special fruit upon which, more than any other one material thing, the wealth of Southern California hinges, was so long ago extensively grown in 'Caieta, once the nurse of the Great Æneas, now the name of an illustrious city' in Latium. Its modern title is Gaieta.

The volume, the handsomest, the fullest, and the most erudite treatise on oranges ever printed, is (of course) in Latin — and the very knotty Latin of its time and class. In a far from thorough review of it I have encountered more than two hundred words which are not to be found in any dictionary I know of — and which certainly are not in the best Latin dictionaries ever issued.

Along with its sober and scholarly exposition of manuring, ditching, irrigation, and grafting run the most flavorsome myths and the quaintest of recipes. Ferrarius traces the citrus family back to mythologic times, to Hercules and the Golden Apples of the Hesperides, to Harmonilla, Tirsenia, and Leonilla, who from women were metamorphosed into orange trees; and gives equal attention to the etymology of the various names, 'citrus' being traced through Greek and Arabic, and 'lemon,' of course, referred to the Greek. 'Orange' (which we doubtless get from *malum aurantium*) may derive its name from 'Arantia, a town of Greece, most prolific in this fruit, whence Hercules was believed to have brought it first,' or



THE NAVEL ORANGE FIGURED IN 1646, TWO CENTURIES
BEFORE IT WAS KNOWN IN CALIFORNIA

from 'Arianus, meaning Persian'; or from the Latin word '*rantius* (*raudum*), that is, of the yellow color of brass'; or from *aurum*, gold; or from several more desperate chances.

The orange is not only of the F.F.V., as Ferrarius shows; our cheap human acquaintance with it is of rather respectable antiquity. Varro, one hundred years before Christ, mentions it as the 'Lybian Citrus'; Macrobius, in the fifth century, A.D., called it the 'Citrus or Persian Apple'; by Pliny, about A.D. 50, it is termed the 'Assyrian or Median Apple'; by Virgil, about 40 B.C., the 'Median Apple'; by Phnias, the 'Multiple Cedar.' In the ancient literature of the Hebrews it was 'Hadar,' or 'The Beautiful'; in old Rome, 'Adam's Apple' (that with which he was tempted), 'Paradise Apple,' 'Apple of the Hesperides,' 'Golden Apple,' 'Wedding Apple' (because it was said to have been a present by Tellus at the nuptials of Jupiter and Juno). Dioscorides called it the 'Cedar Apple'; Galen (about A.D. 150), the 'Citrus Apple'; Aristophanes (so far back as 420 B.C.), 'Oximala' — and so on; giving the orange a place in literature for twenty-three hundred years.

The orange probably originated in India and China (Gallesio seems to have proved this), and was spread by the Arabs to Syria, Africa, and Spain. The Spanish name, *naranja*, is from the Arabic *naranj* — and that comes from the Sanskrit *nagrungo*; and has begotten the Italian *arancia*, and the Provençal *orange*, which we have adopted into our tongue.

We in this country owe the orange to Spain, as we owe many of our most important products, like the best forage-plant in the world, alfalfa. The first

orange trees in the New World were planted in Mexico, three hundred seventy years or so ago, by Bernal Diaz del Castillo, a soldier of Cortes and author of a book which is so much the most human story of the Conquest of America that its value as scientific history can easily be — and often has been — exaggerated greatly.

The characteristic orange of California, the Washington navel (the best orange in the world, to my taste, and nowhere else in the world a commercial success), came to us fifty-eight years ago by way of Brazil. Two trees were sent from that country to our National Department of Agriculture, and from Washington two trees born of them were planted in Riverside, California, in 1874, by Luther C. Tibbits. From these two trees the most profitable orange groves of California derive. These parent trees have made millions of dollars even for the beautiful little city in which they may still be seen — and, so proud should we be of our human nature, the man who planted them goes to the poorhouse.

It was in A.D. 1200 (according to Ferrarius) that the first orange trees were brought to Sardinia and Naples, Palladius being the importer. The glamour of enchantment hung about the citrus still. This rarest fruit of the Hesperides was used for charms, and charms were wrought upon it. There was the prescription for sweetening the fruit — soaking the seeds three days in honey mixed with water, or (what was better) in sheep's milk. Or, again, boring an opening in the trunk, obliquely from the bottom, in the dead of winter, and suffering the humor to flow while the fruit was forming, later filling the opening with clay. There were prescriptions also for enlarging the fruit, for changing its shape, for making it hang on

the tree all the year, and even for making diverse varieties grow on the same tree.

Hesperthusia, the orange, the finest fruit of the Hesperides, was first planted (so says Ferrarius, quoting Joannes Tristanus, a Roman noble) on the isle of Cyprus by the hand of Venus. From Hesperthusia sprang the wild orange, the seedless, the curly-leaved, the double-flowered, the starred, the rose-marked, the striped, the foetus-bearing (navel) orange, the hermaphrodite or horned, the thick-skinned, the distorted, the Lisbon, the Indian (from the Philippines), the sweet-rind, the Maximus, seven inches in diameter, and various others.

But let us hearken to the learned Jesuit himself.

‘Among Median apples’ — so goes a condensed translation from this curious old book — ‘none is more robust than the orange in its patience against the cold. There are many witnesses of very cold hours wherein its golden fruit shone liberally amid silvery snows. But it is remarked how to better the flavor by the location; and expressly, that the meat of a sweet orange that is in a sunny place is made sub-acid when removed from the solar heat, and becomes bitterish, when shaded, from too much and ungrateful sweetness.’ Naples, the author declares, is the best of localities for the orange.

‘Although the orange, being of hardier temperament, does not demand the most exquisite culture, it does not refuse it. Hence it delights in dark, rich, well-crumbled, and humid soil; although it can be reared well in mediocre enough soil. . . . If rich soil be lacking, thou shalt enrich it, as we have forewarned, by mixing it with manure; and if thou wishest an orange liberal of its gold, thou shalt do this liberally. . . .

'If thou buriest a whole orange, from its corruption, nevertheless, crowded little trees spring up — as many as the seeds that weighted it down. But the slowness of planted trees is to be conquered by the artifice of the grafter. Even of the seeds most selected for sowing, indeed, of the wild and undomesticated orange, they are wont to grow up bearing fruit of harsh flavor and tiny growth. Hence, the planted seeds of the sweet orange degenerate into acid and wild fruits, which are afterward mitigated by grafting. Though sometimes more cunning Nature thus outdoes inexpert and uncurious Art, as in the case of the seed-planted [a very rare use of *sativus* as opposed to *silvestris* — wild] orange, making it by its own genius beautifully fruitful, and does not trouble to add the budding. Wherefore the colonists in the Philippine Islands plant them by seed in nurseries; whence they transplant them, a little adult, to prepared places. The people of Corfu, also, very rarely bud, with mellow ones, the volunteer and wild oranges sprung from fallen seeds; but they have enough small trees in the nursery to transplant, because from these of their own accord fruits of absolute goodness are born. The Cretans, however, propagate an orange tree sub-acid from the seed, but sweet by budding.

'But why do I traverse immense seas? Why journey in distant isles? The proof of what I seek afar, Rome supplies. There may be seen in the cloister of the Godlike [Saint] Francis, in the Quintian Meadows,¹ beside the Tiber's banks, a copse of orange trees having the name of "curly-leaved," grown up happily without any aid of grafting, and

¹ Named for Lucius Quintus Cincinnatus, and across the Tiber from the city.



NYMPH BEING METAMORPHOSED INTO AN ORANGE TREE
From Ferrarius' 'Hesperides,' Rome, 1646

most prolific of fruit, which in size and suavity need not envy the budded ones.

'But this same munificence of a more indulgent Nature, not granted to all localities, shrewdly admonishes the grafter that by a natural art he should remove the vice of the wild orange. When it is, then, three or four years old, and certainly of the thickness of a thumb already, he buds it with a well-tamed orange; or even if it is wild, applies to it the buds or shoots of an improved variety. Thenceforth in the more delicate adoptive tree the flavor will indeed be finer, but the life of the tree shorter. That thou mayest couple together the abundance and the flavor of the orange most perfectly, thou must bud its tree upon the citrus, according to the land; for thus in the advantage of the orange the universal fertilizing power of the citron is abundantly given forth.'

II

'In this place it is proper,' continues Ferrarius elsewhere, 'to set forth the notes of the wild orange. The thorns of this tree are more incessant, very long and bristling; the globe of the fruit more contracted; the color of the pulp more pale; its flavor extremely sour; its juice scantier and quick to dry out; its spikes contumacious and facing. But if after the ninth or tenth month the fruits are gathered, out of thousands, two hundred are found dried out; with a few buddings, the delaying of the tree detains the juice much longer. Wherefore the oranges with sweet juice — whereof the milder flavor of the sweetness is not native to the seed but adventitious to the necessary budding — hang juicy very long. Nor do they fear the winter; inasmuch as they are by habit warmer.'

'From the cognate trees of the citron and lemon,' he says in discussing planting, propagation, transplanting, and setting-out, 'the orange varies extremely, inasmuch as it will not root from a branch or truncheon — except one variety full of citrus oil and most retentive of the temperament of the citron. Its hardier and more compact structure does not throw forth many roots. It befalls sometimes that a buried branch somewhere takes root; but it is unfitting that the provident cultivator trust rare and fortuitous cases. Moreover, the formulas already prescribed for budding oranges outlast the ages. For the young planted tree is moved from the nursery, is fixed in an orchard, movable in earthen pots, dressed along walls, or tutelary in an enclosure; and branches clinging to the tree — either dug up from the ground or set in vessels, with the earth packed around, putting out new roots — are brought up unto trees.

'Those which are of tall stature are properly given liberty in spacious soil, or are delivered up to clothe walls. But those of short growth either are had in pots or disposed in humble hedges to gardens, albeit the better oranges, especially those that are of rarer or tenderer sort, are better committed to vases. Thenceforth they are enjoyed by names — which name they take from the sweet skin of the fruit, from the citron-like roughness, from a star-like jointure of the stem, from a distorted shape, from curly leaves, or from their supposed native land, *Sina*.¹ The fruit is distinguished, also, by the threefold flavor of the pulp, as sweet, sour, and middling, and more rarely by the skin as sweet-skin, striped-skin, and curly-leaved.'

As to manuring, ditching, irrigation, and pruning

¹ [*Sina* is the Latin for the China. Oranges of the sweet variety were formerly called 'China oranges' in England.]

of the orange, the author tells us this most fragrant of trees delights in fetid food, and should be well manured at least every other year — though it responds more gratefully to annual fertilizing. It requires ditching between rows every other year. The young trees need frequent watering; the mature ones not so often. The irrigation of the mature trees varies with the locality.

The Ligurians minister water to it every fortieth day throughout the heat of summer; the Neapolitans either every day, or at most every other day, from the beginning of June till the end of September. But the people of Regium maintain that almost no time is seasonable or proper for irrigating the orange or other apples of the Medes. For in April or May, when they begin to blossom, irrigation causes the flowers to fall off.

Many others do not irrigate, unless the dryness of the summer compels. For if in the summer the orange thirsts, it aborts, nor does the flower come to fruit. But if with the first rains of autumn it springs anew, growing heavy in unfit months — as November and December — then it falls short with second-crop or inferior fruit, particularly in being wrinkled, of insipid flesh, and with little pulp or juice. Antonius Venutus Netissus, sound and diligent, a cultivator of the Sicilian fruit, in a small book brought forth a hundred years ago, thus wrote of the present matter: 'The orange, easily foremost of the Median trees, being naturally dry and thirsty, exhausts and burns up the fertility of the earth more vehemently than any other tree whatever. Therefore, thou shalt not permit the place around it to become grassy, but shalt largely irrigate and frequently weed around it. . . . Take this advice, salubrious

and known to few — during the summer, irrigate oranges by night.'

'Though pruning is more rarely done on the orange tree (than on others), do it every other year, or even third; for this makes it fruit more profusely.'

There is a chapter on 'Medicine and Safeguarding' of the orange tree. Against excessive cold and heat the practice of housing the trees — learned in bitterness by Florida of late years — was already familiar in 1646; and there are several full-page engravings which show not only the care of oranges in massive buildings, but even extensive sheds or lath-houses, with elevations and ground-plans, among them being the elaborate gardens of the Duke of Parma.

A chapter on 'Maturity' sets the time of ripening for January — about the average for California.

Chapter XXIV, Book 4, deals with the uses of the tree. An essential oil was distilled from the leaves and flowers, which was sovereign for cuts or bruises. A water distilled from the flowers was of a 'joyous odor,' and a remedy for a sluggish stomach. Another orange-water was remedial for 'pestilent fevers accompanied by eruptions.' A distilled oil from the flowers had not only a 'heavenly odor,' a 'preëminent utility and delight,' but was a wonderful aperient. A fermentation of the flowers was a great remedy for heart disease. Orange brandy was already made; also a julep preserve; candied orange flowers; orange troches; orange balsam and perfumes; orange butter of five sorts; 'angel water' of four kinds, all good for the heart and ventricles. Recipes are given for the making and use of all these.

From the rind a snuff was made which 'provokes sneezing and cleans the head.' The crushed pulp, seed, and rind were roasted in ashes, and used as

ointment about the navels of children suffering from worms. A marmalade, made much as we make it now, was esteemed as an appetizer for elderly people. The juice of unripe oranges was used as a sauce in Crete, and great quantities of it were exported to Turkey. The rind was dried for 'a new and most elegant use, to be transformed into little vessels, convenient for carrying about, for taking through the nostrils (as in the recent custom), dried and ground fine into powder.'

The American henbane, which the aborigines call 'Petun' and we call tobacco, had a similar use.

III

Book II devotes one hundred and thirty-one pages to the citron — which it calls *Ægle*, after the chief of the Hesperides, as it names the lemon *Arethusa*, and the orange *Hesperthusa*. Five kinds of citron are specified out of many; the common, the embroidered, the gourd-shaped, the sweet-pulp, the fingered or multiform. Oranges and lemons were budded on the citron root, as the hardiest of the family.

Particularly flourishing in Regium and Spain, the citron once caused a war between Patavium (Padua) and Venice. Writing in the first century, Flavius Josephus mentions that the seditious Jews pelted their king Alexander Jannæus with citrons at the Scenophagia or Feast of the Tabernacles. Bedraddin, son of Cadiba Albech, illustrious in philosophy and medicine, who deceased in the 655th year of the Hegira (Hijra) of Mahomet, in the book which he wrote on 'Relaxation of the Mind Through the Body,' testifies that he heard from Aloysius (Italian Jesuit, 1568-91; patron saint of colleges)

that the sweet-pulp citron was of the Indies, and that citrons had been found in the Fortunate Isles (which are also called the Canaries), one enclosing another; the one of sweet pulp and the other of sour.

Citron trees, according to our author, should be planted with a southern exposure, and sheltered from the north, southeast, and southwest wind. An aside gives a just appreciation of Nicholas Poussin, the great French painter (born 1591), who drew some of the copper-plates for this book. Theophrastus, three centuries before Christ, wrote that the seeds, exactly purged, should be put in most diligently cultivated furrows; on the fourth or fifth day, watered; transplanted, when already 'a little large,' to soft and well-watered soil; afterward put in perforated earthen pots. But Ferrarius advises that if you would be fully up-to-date you choose full and solid seeds from whole, generous and ripe fruit, put in an earthen vase one finger deep, in the richest and most minutely crumbled soil, in the month of March or September, if the weather is warm or hot; if it is cold, at the end of March or in April. Do it under a waxing moon, and one or two days before the full.

Every kind of citrus fruit can be budded on the citron. Even to get a 'bigger and more jocund' citron, bud citron on citron. Many methods of budding are described. Even the numerous shoots which a truncheon throws out if buried can propagate their kind; as remarks Cælius Calcagninus, in his '*Commentarius de Citrio*.'

There were three ways of raising the citrus after transplanting it from the nursery — either in low earthen pots, or in a space open to the sky, or trained on a wall. The latter method was the most ap-



WALL-TRAINING AND OTHER MODES OF GROWING THE
ORANGE IN ANCIENT ITALY

After Guido Reni

proved, because thus the tree was most easily covered in cold weather; its bearing fruitage was supported without taxing the limbs; and the fruit, being all exposed to the sun, ripened faster. Directions are given for all three methods.

In transplanting, the roots of the citrus trees were 'balled,' even as now. The fit time to set them out was in October or November, and it was best to plant when the moon was ageing. Manuring varied with the temperature of the location; a warm spot requiring it annually; a cold spot oftener. The customs varied in this matter; and those of the Calabrians, Regians, Sicilians, Cretans, Florentines, Malians, and others are described by Ferrarius: 'From its thirsty fatherland, the citron has brought immoderate thirst, and desires to drink water largely. But it does not thirst equally in diverse places and seasons. In sunny, dry, and bibulous soil, in summer and dry months, it loves continuous irrigations; in shaded and humid soil, less frequent.' Care must be taken that the water does not stagnate or the earth putrefy. Irrigating should be done in the early morning or in the evening, that the water may not be heated by the sun.

Directions are given as to pruning in the way best adapted to each of the three fashions of growing the tree (in pots, in an open space, or wall-trained) and as to the tools used — billhook, forceps, saw, pruning-knife, and refined wax. Pruning was done twice a year, in spring and autumn.

A chapter is given to the ripening, picking, and curing of the fruit. Palladius advises to pick by night; Calcagninus to pick on a cloudy night. After picking, the fruits should be put where they do not touch one another, in separate wrappers, or

smeared over with gypsum, and kept in a dark place, either in cedar sawdust or in chopped straw, and well covered with dry chaff.

Two long chapters deal with 'The Commoner' and 'The More Occult Utility of the Citron':

'The golden apples enrich the human race with precious benefits. Their beneficent force and multiple utility have been slowly discovered by the experiments of men through the march of ages. In rude antiquity, this apple was exposed in houses for the delight of the eyes and nostrils; it was laid away in clothes-presses to kill moths by its perfume; and, as though a thing of vast price, it was preserved in treasure-chests. Detested for bitterness of rind and harshness of pulp, it was not regarded among eatables, but was employed as a medicament.

'On the other hand, Athenæus Naucratica — an erudite entertainer of the Sophists, in the age of M. Antoninus Princeps, who gave directions in his volume ¹ for a supper of elegant magnificence — testifies that in the memory of his ancestors this citron was used as a food. Furthermore, he thus narrates that the power of these apples against poison was understood in Egypt in his time. "That a citron, whether fresh or dry, taken before a meal, resists all poisons, was proved by a fellow-citizen of mine to whom was committed the administration of Egypt. After the Alexandrine code, he condemned certain criminals to be bitten by serpents. As they were proceeding to the place destined for the punishment of murderers, a certain wench, wife of a huckster on that same road, chanced to have in her hands a citron, which she was nibbling, and in pity held it out to them. They, when they had chewed this apple,

¹ *Dipnosophia*.

being put among huge and most savage snakes, received their venomous strokes without harm. Astounded at the novelty of the thing, the judge inquired of the soldier who guarded them whether the criminals had not drunken or eaten any antidote. And when he ascertained that a citron had been given them without guile, he ordered that on the next day the same (i.e., a citron) should be given to one of two (criminals), and both at once thrown to the snakes. From which it happened that he who had eaten the citron escaped uninjured, while the other expired on the spot. Following this, constant experiments made the faith most certain that the citron resists all poisons."

'But Plutarch, a century earlier than Athenæus, indicates that the citron was hardly in his time accepted as among foods; since many of the older men then living abstained from it altogether, not being accustomed to it as food. "Many things," he says, "which no one used to care to eat or taste, are now become most agreeable — like mead, brains, pumpkin, pepper — and the Median apple" (by which he meant all the orange family).

"The citron tree — an alien long refusing the hospitality of our soil — Palladius (later than Pliny) made Italian by accurate and lucky transplanting; whence it has already crossed into Spain and other regions and become accustomed there. By sedulous obstetric culture it has forgotten to grow up in multiform growths, and has lost its harshness and become of various uses for medicaments, foods, and delicacies. I omit here to enumerate the infinite opportunities wherein the Median trees and their apples serve most excellently the race of men — in medicine, in foodstuffs, and in pleasure; for this

would be a labor of immense and peculiar volume.' Wherefore he 'omits' whatever he cannot get into twenty-six folio pages.

The widely variant medical opinions of Galen, Paulus Ægineta, Avicenna, Rafis the famous Arab, Averroës, and other doctors of antiquity, are quoted by Ferrarius as to whether the citron should rank in the second or third 'grade of dryness' — that is, as a preventive of gross humors. Galen held that citron rind, chewed fine, was of value to invigorate the stomach. The juice of the rind was also used by him as an aperient. Avicenna cured 'languor of the stomach' with citron preserve. The rind was also used for heart disease, 'on account of its latent heat,' and as an antidote against poisonous bites of beasts and snakes. The seed was used against all poisons. The acid of the fruit was commended by Avicenna as styptic and a preventive of cholera. Averroës held the seeds to be a 'most instant antidote against every sort of poison; but that the fleshy part procreated gross humors.' A decoction of it, rinsed in the mouth, aids in difficulty of breathing, and is a help to pregnant women in nausea. A decoction of the bitter part is good for heart disease, an appetizer, cholera preventive; a stomachic; 'it quenches the heat of the liver, and abolishes sadness,' but prejudices the lungs and nerves by its bitterness. Mesue prescribes two syrups of citron: one from the rind, to settle the stomach and give a good breath; the other from the acid juice, to cure bile and fever, quench thirst, prevent drunkenness, cure vertigo, expel contagious fevers. Joannes Costæus wrote that this syrup strengthens the whole body; 'while torpid blood and a half-dead spirit are refreshed and revived by a smell of citrus odor softly burned. It is best to add

musk, in treating women — most of whom rejoice in that odor.’

The author goes on through many pages, quoting the opinions of many ‘more recent’ medical writers, with their special syrups, decoctions, and so on. Incidentally we learn (through a quotation from Bedraddin) that the Arabs made a lamp-oil from the seeds. The seed, crushed and soaked in tepid water, was used by them as a sure antidote for scorpion bites. Ferrarius names a long list of medicos who had already by 1644 printed their testimony as to the medicinal virtues of the citrus family; but passes ‘in silence very many others, that I, who love brevity, may not be interminable.’

The chapter on ‘The More Occult Utility of the Citron’ (XXI) is no less entertaining.

‘Although this tree does not exude voluntary tears of precious gum, as do some of our native and exotic trees, by distillation, and by force of that process which the chemists call refrigerating, it yields liberally and in variety from leaf, flower and fruit, for manifold needs of man.’

A ‘most salubrious oil’ was made from the flowers of the citron; as also from the flowers of the orange — the latter being ‘vulgarly called quintessence.’ An oil was made of the leaves of the citron, and another from its rind; another from the rinds of oranges which hung too long on the tree or fell too early; another from lemon rind — all by distillation. An oil was also expressed from citron rind. This oil was used as a flavoring-extract in cookery, by ‘inodoring’ sugar or salt with it. Two sorts of citron juleps are described. A compound of citron rind was made for the heart, stomach, and breath; and citron lozenges of several kinds for the same use;

the best being made in Naples. A citron-water was used to flavor delicacies. Recipes are also given for a diaphoretic made from citron rind, and for many sorts of confections, lozenges, oils, compotes, tinctures, flavors, etc. The crushed leaves and buds are also said to be most salutary for bruises and wounds.

Turning to lemons and limes, the author devotes to them the Third Book, with fifty-three full-page copper-plate engravings — nearly all of them life-size illustrations of the fruit. The varieties described are the common lemon (of which there were many sorts), the San Remo or Ligurian, the ball-tipped, the Gareta and Amalfi, the small Calabrian, the Rio, the Laura lemon (after a Neapolitan woman in whose garden this variety originated; the fruit was eight and one half inches long, but with little pulp), the incomparable, the imperial, the sweet-pulp, the Lisbon sweet-pulp, the pear-shaped, the fluted, the cluster, the common fluted, the Amalfi fluted, the Sbardonius and the Rosolinus (after two famous Roman growers), the Barbadorus (after a Florentine grower), the scabby (from its very rough skin), the citronized (of several varieties), the inclusive (with one lemon inside another), the pseudo-citronized, the wild citronized, the wax-colored (of many sorts, including one peculiar to Tripoli), the spongy, the wrinkled, the warty, the Paradise apple, the Adam's apple (of several sorts), the Lumia (of many varieties). Of limes there are the sweet and bitter, the oblong, the round, and several others. Just as for the orange and citron, there are explanations as to the mode of growing the lemon and lime, and their various uses.

Philadelphia was not founded till thirty-four years after Ferrarius was printed, Boston and New York

were not yet twenty years old — and none of these cities has even yet put forth so scholarly and so handsome a book on citrus fruits. Even from these superficial sketches, it may perhaps be apparent that we are not the only people.

But to my way of thinking the most caustic reminder to us that we are not the beginning and the end of the world is that beautiful copper-plate in 1646 of the 'Washington navel orange' which is the corner-stone and pride of California, and which it really believes it originated as it practically monopolizes. But here is the proof that it was known three hundred years ago, and scientifically studied, and grown.

NOTE

An interesting book could be written about the development of oranges in California — and of a considerable part of California by oranges. The first shipment of oranges from California was made by William Wolfskill, in 1877. His shipment was a full car to St. Louis and it took more than a month in transit. His orchard (of oranges from Mexico) was in the heart of what is now the business part of Los Angeles.

When I came to Los Angeles in 1884, the freight rate on oranges to Kansas City or St. Louis was \$600 a car, by the Southern Pacific Railroad. Two years later, when the Santa Fé road got in here, the rates per car dropped at once from \$600 to \$400 a car; and soon after to \$200 a car. This was the beginning of the great railroad competition which was the making of Southern California, with its crazy boom and a remarkable chapter of exploitation and of actual development.

It was at this time that the rate war between the Santa Fé and the Southern Pacific brought about a passenger rate, which lasted for a month, and gave a round-trip fare from Los Angeles to St. Louis of five dollars. For one wild day, that round-trip ticket was only one dollar! This started the stampede of Easterners which doubled the population of Southern California in very short order. The orange appealed to a large proportion of them, and great areas were laid out to its culture; frequently

in localities sometimes visited by frost, or otherwise undesirable. But numerous brave little cities have sprung up in a nucleus of orange orchards from which they still derive their chief wealth — and by 'little,' I mean 50,000 to 75,000 population.

As an indication of how vastly the orange has made its way in multitude and everywhere, I quote the figures for 1927 as to orange shipments in this country. The foreign (i.e., Italian) orange is no longer imported. About 400 tons (27 cars) of Mexican oranges come into this country annually.

Present annual production of navel oranges in California: Boxes, 11,781,539; carloads, 25,612.

Present annual production of all oranges in California: Boxes, 22,540,000; carloads, 49,000.

Approximate present annual production of oranges in Florida: Boxes, 10,000,000; carloads, 21,731.

Of course the Florida orange came from Spain by way of Mexico almost with the beginnings of Florida; and it was by far the first portion of the United States to enjoy this fruit. The orange was brought into California from Mexico by the Franciscan missionaries by 1780, but never cultivated commercially until Mr. Wolfskill's essay.

V

THE YANKEE SMUGGLER IN CALIFORNIA

SPAIN was the mother of Protection. The most rabid Republicans would shy at her idea of a tariff wall. Other countries in the little Old World had had their imposts, but none had ever dreamed of Protection on a world scale. But Spain, owning practically everything in sight of the vast New World, and being in her time the greatest sea power, felt it wise to protect her infant industries by closing every port of the Spanish world to all alien vessels. Only the Spanish galleons could enter and trade — and they covered enough of the seven seas to suffice the reasonable needs of even such an unprecedented world of colonies. It was not Protection, but Prohibition.

For centuries this wall against outside commerce was maintained; for centuries it sufficed with satisfaction. But it came to be one of the basic reasons why Spain lost her colonies; why the great nation which had administered — and almost always wisely in other cases — a majority of the Western Hemisphere was left more than a century ago with hardly a colonial rag to her name.

And precisely as Prohibition breeds bootleggers, so does the tariff breed smugglers. The English and the Russians made a feeble fist at this, the Russians being more engaged in fur-trading and the English finding piracy much more attractive. Our smug and godly Puritan forefathers of New England were among the first and most active to seize the opportunity to smuggle on the California coast, the only portion of the Spanish domains unguarded enough for this

traffic to be even measurably safe. From about 1800, up to the unresistant rape of California by the United States in 1846, the hardy men of Massachusetts beat around the icy Horn and up the unfriendly West Coast to deal in hides and tallow and other things with the simple pastoral Californians.

In Mexico, in 1908, I secured for the Los Angeles Public Library, of which I was then librarian, the entire papers in the most extraordinary case ever recorded in this little-known traffic — the case of the ship *Mercury*. If historians have ever found, they have never used any material so important and so illuminative to this significant phase of California history. It is a manuscript of 1137 pages, comprising the original documents, proceedings, letters, etc., in the only known case in which a contraband trader on the California coast came to full trial of which official record was left.

This find — absolutely unknown to Bancroft and other historians (though they heard of the bald episode) — throws more light on this curious invasion of the Spanish possessions on the Pacific by adventurous Yankees, on the markets, products, and imports of California at the time of the War of 1812, than any archive thus far discovered, and it is still available to students in the Los Angeles Public Library.

June 2, 1813, the Boston ship *Mercury* was seized near Point Concepción (and taken to Santa Barbara the same day) by the armed Lima merchantman *La Flora*, commanded by Captain Nicolas Noé. The *Mercury* was commanded by Captain George Washington Eayrs (spelled in various ways by Bancroft), a Boston Yankee who was engaged in hunting seal and

otter-skins on the California coast for a dozen years. He evidently learned the profits to be acquired in smuggling, for he had ten vessels engaged in the trade when he was 'caught with the goods.'

The precise Spanish legal procedure was gone through in his case, and it is all recorded here — the full inventory of his ship and cargo, his correspondence with the Viceroy of New Spain (Mexico), and with his brother and the shipowners in Boston; along with many furtive notes from the missionaries and other prominent citizens of California, 'making dates' with him; his bills of sale, showing the liberal purchases of rather expensive goods, and the prices paid in money and in otter-skins.

This most important document on coast history in the early part of the pastoral era gives us not only prices current, but an inventory of the imports and exports of California at the time of the second war between the United States and Great Britain — with which, by the way, Captain Eayrs was by no means in sympathy. He feels that his native land 'made a great mistake' in going to war with the mother country, and complains that it has cost him and his backers several thousand dollars. His relation of experiences as a Boston trader to the Pacific, dealing with India, the Sandwich Islands, the Russians in Alaska and at Fort Ross in California and the Spanish possessions in California, is wonderfully illuminative.

Captain Eayrs complains bitterly to the Viceroy of 'barbarous' treatment by his captors, but apparently the Californians were as full of official red tape and personal hospitality in his case as has always been their habit. The document includes receipts for money given him (from the personal pocket of his

captors) at the rate of one dollar per day during his entire captivity, and the record of a legal procedure as exacting and merciful as any country could pursue. The testy Captain is a pretty good single-handed prevaricator. He maintains in his letters to the Viceroy that he touched California only for water and provision, but his own bills of sale prove him false. He is careful not to mention, in any letters to his pious Boston relatives, the Kanaka lady and their baby who accompanied him; but complains bitterly to the Viceroy that a slave boy whom he had purchased and presented to 'My Girl' had been confiscated. (But slaves were all right in Boston then.)

In the early days of 1806, one José Sevilla, who had been a citizen of Monterey, California, for fifteen years, went down to Tepic (on the northwest coast of Mexico) with petitions to be made a Coast Guard for California against the active contraband trade by English and American vessels. The royal order forbidding this traffic had been published in Monterey in August, 1805, and was but a repetition of Spanish ordinances covering centuries.

Señor Sevilla relates that those commands are openly broken; that every year foreign vessels with contraband goods enter freely into all ports, trading not only with the missions and the citizens, but often with the military and naval commanders, all the way from San Francisco to San Diego. These foreign ships are so bold as to careen at the 'Ysles of Santa Catarina' where they 'trade with the natives and the citizens.'

Señor Sevilla writes himself 'An Apostolic Roman Catholic, by the grace of God; a Spaniard by birth, born at Agualulco; forty years of age; of estate, married; and a saddler by profession.' Setting forth

that these foreign ships bring goods over from the East Indies and from Asia, and sell them for money and otter-skins, he prays that his commission as guard authorize him to arrest and seize all such contrabands; and that the Governor of California and the military and naval commanders shall not vex or injure him in person or property for such action.

It would be foolish to try to edit the story of Captain Eayrs. He wrote it himself, at the time, well more than a century ago; with his righteous as well as his unrighteous indignation hot within him; and with that quaint savor of his day which no one can imitate in ours. These typical letters to the Viceroy of Mexico, to the Captain's brother in Boston, and to one of the bonders of the Mercury, also in Boston, give the picture in full color.

SN DEAGO *October 8—1813*

Moste Noble & Excellent Sir, Vice Roy of Mexico —

Being a Prisoner in this place and moste disagreeably situated, I have to deplore of Your Excellency as speddy relief as the nature of my captivity and difficulty of the times will admit of — My ship was taken possession of, by an armed party in a long Boat from the Ship Flora Dⁿ Nicolas Noe belonging to Lima — I used no means of defence whatever, my sole visit here being for supplis —

Since being a Prisoner, I have been treated inhumanly, even so if the two Countrys had been at War — It is but about leaven Years since (by being left at Monterrey I passed this whole Continent, Via Mexico & the Havana, and I must confess I was treated with humanity — I have commanded the Ship Mercury, since January 1808, nearly six Yea^s my Trade has been chiefly with the Russian Gover-

nor & the Savages on the N West Coast of America, In the Winter seasons, when the Weather has been blustering I have run as far South as California for the purpose of Supplys, & one Year was imployed hunting Furs from Columbies River to this Coast — It is true, I have made a little Traffic with the Californians, & have not the least wish to conceal my whole Trade in this six Years, whatever damage it may lay me liable to —

From the highest to the lowest Officers on this — Coast, has been the means of my makeing any Trade here, & have Intreated me to bring them things for the Cultivation, & other articles that they was nearly in distress for — I have suppliyed the Clergy for the articles of Religion, from their great intreaties, not being able on account of the Revolution on the Continent to obtain them — I have taken in pay Provisions & a few Furs, have cover'd many a naked one, and receiv'd the produce of his land in pay — I have no doubt but there is some in high Office here, should Your Excellency request the truth of them, relate to You just the same facts —

It is several months since my Ship was taken, & in this time I have had to content my self with being plundered, I say pln^r for I can call it by no other name — It is but a few Days since, I arrived at this Place — where I was informed I was at liberty & could write to the Vice Roy —

Suffise it to say, & I humbly beg Your Excellency — will generously take my affair into consideration, — should the case happen in Spain at a time of want, and be indulged by the highest Officers of the Kingdom, justice would be done —

Haveing ben nearly seven months at the Russian settlement in Lat^d 57° North for the purpose of Re-

pairing my ship, had nearly expended all my Provisions from which Plase I sailed for this Coast on the 28 April — I directed my Course for the Russian settlement on New Albion in Lat^d 39 or 40° North, for the purpose of landing six Hogheads of molasses, & some Cloathing that the Governor had pute on board my ship for that purpose, he likewise pute on board, . . . a Box containing six Gold & Silver Watches, one of which was made a Present to him by the Emperor, all these to be left at Canton — for Repairs — The Cloaths I landed, but the Molasses, the Russian Command^r could not take, haveing no Boat fit for the purpose — After landing these Goods set sail for Monterrey, at which place I lay off two Days, but being a thik fog could not enter, when I set Sail for Point Conception, I stoped at the Mission of S^{nt} Luis, where by the friendly Pardra, I obtained two Bullocks — twelve Hogs & salt to Salt the same — I made no tarry, but set sail for P^t Conception, where I arrived on the first of April June [sic], and I set my People to filling up Water, and cutting Oak fer the purpose of completing the Repairs of my Ship — The only thing that I obtained here was one Sheep, when the Ship Flo^a made hir appearance at Noon — The next morning at Day light, my ship was taken possession of as before Related — my first Officer and two men was taken from my Ship, & I ordered to S^{nt} Barbara — my Ship arrived long before the Flo^a & I had it completly in my power to retain my Ship again, but my determination was, to use no hostile means, not withstanding it was done to me —

I have a Young Female with me which I have had several Years, with whom I esteem equal the same as if I was lawfully married to hir, and a Daughter,

only twenty five Days old when the Ship was taken — The second Day after I arr^d at this Place, I was Ordered on Shore with my little Family, & after overhawling my Trunks &c, was permitted to take them with me, with some Articles of Cookery — I had likewise a small Indian Boy that I Bo^t at Columbies River, five Years since, him I also took with me — On the 19 June I was sent for early in the morning by Arwayus ¹ Son — said for the purpose of giveing in my Deposition — I soon after Repaired to Cap^{tn} Arwayus House, little thikking what Base business was going on — A Kind of a Deposition was Written, but I no not what — while this was doing, I once wished to return to the House I lived at, but that was denied me — After completing this, I was sent to my House in company with Cap^{tn} Arwayus Sun, The First Officer, the Boatswain and Clark, of Dⁿ Nicolas Noe's Ship, said by the Governors of Monterreys orders, to rehistory all my Bagage for Gold &c my whole Cloathing with my Girls, was hove on the Ground — the same things that was given me when I landed, was now taken from me — even part of my Girl's shoes, with Handkf^s & other things was taken — What was the basest of all, I found on my arrival at the House, my Girl packing up hir things & looking as if she had been beeten, she informed me, while I was absent, a Pardre, several Girls, D^r Nicolas, Clark & others, had been there and ordered hir to pack up and leave the House amedeatly, that I was in confinement and would never see hir more — hir Indian Boy was taken from hir, notwithstanding sick in Bed, & I have never since seen him, and in all probability had I not return'd to my House as I did, both my Girl and Daughter

¹ Arguëllo.

would been secreted away, where I should never more hird of them again — while at S^{nt} Barbara, I found the Sailors of both Ships, selling the Plunder they had made of my Cargo, & likewise my Cloaths, I presume a flemish Acct — will be given of my Cargo —

I send Yours Excellency here inclosed, an Invoice of the Mercury's Cargo, Provisions &c — The Furs I cannot estimate their Value, nor the Ship. The six Hogsheads of Molasses is going to ruin at S^{nt} Barbara, & the six Watches I presume, will be of as little Value, as they cannot be repaired on this Continent — Those things belonging to the Russian Governor, what ever may be concluded on my Ship & Property, according to the Laws of Nations, I think they aught to be restored to the owner again — There is likewise a small Box & a packet of Papers, directed to the Rⁿ Governo^r contents unknown to me — About the 15 of Sept^r I was ordered to depart amediately for S^{nt} Deago, where I now remain, it is reported to me, that Spain is at War with the United States — The last accounts I had from America, they was at peace with all Europe, excepting England.

I expect that N. America will not go to War with Spain, unless forced by Britain, should she not; my earnest wish is, that I may be permitted to proceed on to Mexico & lay my case before Your Excellency, leaveing my Girl and little Child under the protection of some Mission — The turbelent state the whole Globe is in at present, makes it dificult to determing what to do, but I beg that I may have as spedy a conclution on Your Excellency's part as Posable, that I may lay my affair before the American Government —

Should the United States be oblige to go to War

with Spain, I can expect nothing, In which case, I earnestly request the humanity of Your Excellency, to permit me to depart for the Russian Settlement, this will save — great expence to Your Excellency, and relave both me and my litle Family from distress and Prison —

God grant Your Excellency will take my case spedily into consideration —

I remain honoured Sir, Your
Moste Obedient, moste humble

GEORGE W. EAYRS

[rubrica]

SN DIEGO, *Febry* 17, 1814

Moste noble and Excellent Sir, Vice Roy of Mexico.

Haveing wrote Your Excellency by two different Posts, I am now improve this opportunity to write you again, fearful the dificulty of the times may detain my Letters — I have inclosed Your Excellency an Inventory of my Ship's Cargo so, with some minute transactions in my former Letters, I shall now imparshally give your Excellency a more perticular Account, mentioning ever circumstance —

I have with me at this place, my second Officer, Boatswain, and two of my Sailors, after my Ship was taken to Sn Barbara in the hostile manner I formally wrote Your Excellency, these men with my self was put under strict guard, not allowed any liberty what ever, The remainder of my Crew at liberty, enjoying in Drunkenness and the Sale of many articles of my Cargo with the other Ships Crew — my mate who is a real American acting as Dn Nicolas Noars first Officer —

When my Ship was taken possession of, I was informed the Governor at Monterrey had given orders

to take all American Ships wherever they could be Captured At Sn Barbara I was informed that Don Niculas had his orders from Sn Blass, then from Lima, and last from his Excellency the Vice Roy of Mexico.

When my Ship was safe at Sn Barbara, I was ordered by Dn Niculas Noar, and Don Joseph Arwayus [Arguëllo] to put all the cloathing belonging to me and my Girl, and everything of my own and go on shore. Dn. Niculas, his officers, & Arwayus as I took out my Trunks and things, overhauled all my papers, and every Bundle, taking whatever they thought proper.

I went to packing up my things as they was overhauled, haveing two very elegant Swords, Dn. Niculas admitted me to take one, saying he would take the other, my Girl had in hir trunk, small cash to the Amt of four hundred Dollars, this she was permitted to take, with other things.

It was late when I was desired to embark in the long Boat, and what ever was wanting I could obtain the next Day, and next Day I apply for many thing that was missing and was informed I could have no more — I did not obtain but part of my Cloathing, and what I did pack up, was part stolen in passing into the Boat.

Nearly a month passed, when I was informed I must give in my Declaration, on the 19 June, I was sent for by Dn. Joseph Arwayus, Commander at this place, to give in my Declaration, no sooner then I had left my house, then Dn. Niculas entered, and took a slave Indian Boy from my Girl, several other persons entered in company with a Priest, informing my Girl she must pack up all hir things and go with him, that I was not to return again to hir, but was

to be put in confinement, with many other frightful accounts. I gave in a short Declaration, which was wrote in Spanish, and was desired to sign the same, though I know not what was wrote, when this was done, I was desired to go to my House with Com. Arwayus Son, the officers of Dn. Niculas, and several other Persons, for the purpose of overhawling my Bagage, said for Gold &c. I was informed this was by the Governors orders. I found on entering my House, my Girl in a deplorable situation; she sick holding her Infant in one hand, packing hir things up with the other, I did not know what was done untill I had admitted all my things to be overhawled. The very things with the Cash, that I was admitted to take on Shore, I had now taken from me. They took from my Girl hir shoes, Hkfs and other articles of wearing apparel.

I have several times while at Sn. Barbara, sought for permission to proceed on to Monterrey to lay my case before the Governor, but never could obtain one, I have wrote to the Governor, but never as yet recd an answer, I have desired Arwayus to admit me to overlook my Cargo &c to go with my Ship, that a just amt might be given, but all to no effect.

I have every reason to believe, an unjust Amt is intended to be given by the Parties, several of my men while at Sn Barbara was persuaded to give in their Declaration including several years, when they had not been on Board but a few months.

I shall give your Excellency a short and correct sketch of my Voyage, that your Excellency can judge for Yourself.

I left China in the year 1808 with the small Amt of Cargo about five thousand Dolls, my first Business was Hunting Furs. This Business I entered into with

the Russian Governor, & continued several years, in which time I was in the Winter season as far South as California for supplis, and the purpose of taking Seal Skins. I received several letters from the head People & Pandoes of California, intreating me to bring them many Articles that they was in distress for, & could not obtain them from the Continent. On my return from the Russian Settlement, I obtained all the Farming utentials &c that was in my Power, with the promise to make what ever more the Governor could. The Hunting & Sealing Business, I continued in, until two years since when I obtained a large Amount of Furs of the Russian Governor, These Furs I obtained on Credit, to bring him a larg Amt. from Canton in Goods & provisions.

I Bought an old Vessel at Canton, loaded hir entirely with Provisions, and loaded my own, with Provisions and Goods, and returned to the Russian Settlement, where I landed the two Cargos excepting a small Amount that I reserved for the benefit of obtaining supplies.

I entered into a contract with the Russian Governor, to continue in the Hunting Business; while imployed in this Business, I received Letters from Cape Lucas, intreating me to bring them many Articles that they was naked and were in great want.

I obtained some of the same articles again that I had sold the Russian Government & took on Board, Wheat, Beans, & what was wanting and proceeded as far as Cape Sn Lucas, I made sale of but little, taryed a few days and departed for the Russian settlement, having on board the same articles that is now in my inventory.

My ship on my Voyage to the Northwest, proved very leaky and obliged me to have her Repaired at the Russian Settlement. my detention was very lengthy, and occasioned me to expend nearly all my Provisions, or instead of coming to California I should proceed to Canton. After I had completed my Ship, took on Board as I wrote your Excellency before, many articles for the Russian Government, to be left at her settlement at New Albeon, I delivered all that the Russian Commandor would take, haveing some of the things still on board my Ship, & departed for California, where in a few Days my Ship was taken at Point Conception.

On the 18 September I received orders from Dn. Jsph. Arwayus to take a Hdfl. of Cloathing & depart immediately for Sn Diego. I expostulated with him the injustice and hardships he was putting me to, but to little effect. I made out to obtain my small affects with me, and departed in the morning for Sn. Diego.

I mention these circumstances, on acct of many false reports made here, it was said when my Ships was taken, I had on board half a milion in Specia, that I had taken considerable back from the Continent &. In lue of taking back, I have Paid Cash away, and all that I have ever taken from the People, has been Provisions, with a very few Furs. I should be very willing to have my case laid before his Catholic Majesty, at the Corts of Madrid, would times permit, where I have no doubt I should be justified. There was several Spanish Papers, a mimorandoms, amongst my Papers, from some of the first People here, those I have no doubt has been destroyed by the Parties.

The whole affair of my Ship, has appeared to me to be conducted in a Clandestine, & *Lawless* manner.

I have not been treated like a Prisoner of War, no can I say in what way I have been treated.

Whatever Laws the Nations of the Globe may have, human flesh is not to be taken, my Indian Boy was taken from me by force by Dn. Niculas Noar. If any Person has a right to that Boy, I am the just Person, having Bought him when a Child. The Robbing me of this Boy, and my Cloaths, and other things, after being put on Shore, is scandalous to mention.

I humbly hope Your Excellency will take my affair into consideration as spedily as posable, that I may know in what form I may lay my case before the American Government, to be presented to the Court of Spain. My affair I know, is not a great amt and to your Excellency, would be a mite, but to me a considerable. It is my honest and hard earnings, and I declare to your Excellency I will not relinquish my Claim, without an honest & hard struggle. There are many circumstances that has ocured, and should these Poor People confess the truth, will be greatly in my favor as for my part, I hid nothing from Your Excellency, whatever danger it may lay me liable to.

I enclose with Your Excellency's Letter, two Letters directed to Boston, they come unsealed, with the humble request, that your Excellency will let them proced on, after causing them to be sealed. I send them unsealed, that should any suspition of fraud be apprehended, they are at liberty to be read.

God grant Your Excellency many Years. I remain Your Excellency's most respectful, most Obdt & Humble Sirvent

GEORGE WN. EAYRS.

SN DIEGO, *March 6, 1814*

DEAR BROTHER:

I Direct my Letters to you, as I have been informed our Father has Removed to the Country. I am quite ignorant as Yet what has occasioned the War between England and America — I can only say from what knowledge of affairs, America our adorable Country, in my opinion has taken a bad step — I well know that the English has acted towards our Country unjustly, but for my part I do not see any difference between either England or France, they are both a Proud, Malicious People, always seeking the overthrow of other Nations — I have my share of the Good and bad fortunes of the World. I have not lost all, but have lost by my ship being taken at this Place, a handsome Amt that would if I had it in Boston make me happy all my Days.

I shall not be very particular as it is quite uncertain if this comes safe at hand — you will be good nuf to inform the bonders of the Mercury that I intend next Port to write them, inclosing a statement of my affairs and an Inventory &c — I have Wrote all ready by Sea, by way of Canton.

I shall now only give you a statement of all my property that I am informed arrived safe at Canton & was worth when Cap^{tn}. Wm. H. Davis left there, Eighty thousand Dollars including both my Ship and the Amethyst Property, that I shipped to Canton.

Should you fortunately receive this Letter you will be able to exact my just Proportions of all my Property. I cannot inform you the Amt of the two ships separate, that you will be able to find out by J. P. Cushing, American Councul at Canton to whom the Property was Shipped too.

Should the Propety arrive in America before my

return be particular and exact my just demands, not letting it go into other hands, but take it on the spot.

I wrote to Mr. Cushing not to ever ship any of my Real Property to America, only what I owned in C^o with the Mercury's owners, there fore you mus be very particular and ascertain this whenever any Property comes on.

I would make out a proper Act. in form, but that I can not do, not knowing how the Property sold in Canton, or in short anything more, than it arrived safe at Canton and was worth so mutch when Cap Davis left there all to gether.

The outfit of the Ship Amethyst I could not come at, with in a small Amt but by this you can come at my Share, Deduct one Quarter for the Capt say 600 Doll^s \$746.88 for Mr Megee, & \$14453 14453 Doll^s as if it was in the Mercury & by my Bill Sale, a Portion in the Mercury You can come at my just Share.

The whole out fit is 24000 Doll^s or perhaps a very little more, ded^s these sums, leaves for my real share in the Amethyst 2801 Doll^s so that I have two Shares in this Ship one separate & the other in Co. with the owners of the Mercury.

God grant we may meet again releaved from all danger, in that once happy and delightful Country, is the ardent Prayers of your

Brother

GEORGE W. EAYRS.

P.S. I have wrote number of Letters by Sea, giving every necessary act, of my Voyage &c. Columbia River is taken by small number English.

SN DIEGO, *March 9, 1814**Mr. Benj. W. Lamb*

DEAR SIR:

I avail myself of this opportunity to write you a short statement of my misfortunes. I have wrote some time since by way of water, mentioning very minutely every circumstance & shall not be so particular here.

I send my Letters unsealed to Mexico, and it lies wholly with his Excellency, the Vice Roy of that Place, weather they can pass or Not.

I lament greatly my misfortunes, the affair of which has deprived me of giving great satisfaction to the bonders of the Mercury. I can only say, if any bad conduct has been performed, I sincerely believe it is at home, amongst You in the Government, God knows what will be the event in the end. This I know, the War with England has deprived me & the Mercurys owners of many thousands, haveing when I left the Russian Settlement made a contract with the Governor for a great Amt to be brot him from Bengal & China and did agree to Buy the Brig Lydia in Co. with Capt. Benhet at Nutka.

I left Norfolk Sound on the 23 of April, after in-counteriing with a most bitter winter, having with the assistance of the Governors, Carpenters, my men and my noble self, made the Mercury nearly a new ship, with a complete new Copper bottom. I had to Copper the Ship solely myself, no one here knowing how to put on a Sheet of Copper, and am now left to lament the resigning my hard toils, to a mean Lawless Drunken fellow, Comdr. of a Spanish Merchant ship, Said to come from Lima with the intent to take all the American Ships he could that was ignorent of the disturbance in America. This fellow brot the falce News to this Part of the World, of an open

Declaration of War between Spain & America, in consequence of which I received some barbarous treatment.

I can only inform you at present, have wrote to his Excellency the Vice Roy of Mexico, & am waighting an answer, I know not yet what will be the result from that Place, but request of you, and all the owners of the Mercury, from the small acct I here relate to you, you will all prepair a claim to be laid before our President. From many circumstances, I declair to you I never will relinquish my claim to the Mercury until an hard and honourable struggle has been made, and hope you will persist in the same.

I can safely say, were our Merchant Ships to be allowed to conduct in the same Lawless manner, their Spanish Ship has, it would be prudent to lay up all commerce for no honest Man would be safe.

I left Norfolk Sound in April last, bound down the Coast for the purpose of obtaining permition to proceed on to Monterrey to lay my case before the Governor, but never could obtain one. I have wrote to the Govern but never as yet received an answer.

On the 18th I was ordered to depart amediately for Sn Diego, as orders had arrived that the Spanish Ship was expected every moment, and was bound direct to Sn. Blass. I expostulated with the Come-dant the injustice & that I wished to go with my Ship that I could lay my case before the Vice Roy, but to no affect. I now reside at Sn Diego where I have been several months.

I conclude in giving you some accounts that has fall under my knowledge since being here.

February 1814 received account that an English Merchant Brig was at Sn Barbara, that one frigate

was at Monterrey, and nother at Sn Francisco, that they had entered Columbia River with their Boats & taken possession of the American Settlement, and left one hundred men or more, one of the Ships has received some damage and is repairing at Sn. Francisco.

The American Ships Captns. Wm. H. Davis, Jno Winship & his Brother, Captn Whittimore and one other Ship, was all in this Coast about one month since, for the purpose of supplys, but I believe from false reports did not obtain much.

The Russian Company met with great Loss last Winter the Ship Naver was reched near Cape Edgecum and nearly a total loss and with many lives, including a new Governor. Two other Ships was lost totally, Amt to more than a half Million.

God knows what course I shall next take. I can only say I am in good health & hope these lines will meet you the same

With sincerity I remain Dear Sir Yours &c

GEORGE W. EAYRS.

P.S. Write me a few lines if an opportunity should offer it may come safe at hand.

[To the Viceroy of Mexico]

I send Your Superior Excellency here inclosed a Copy of two Letters Received from Sr. D. Josa de Labayen Com^{te} of S Blas, and my answer to them I do not know the opinion of the Cap^{tn} General Sr. D. Josef de la Cruz respecting the Sale of the Ship Mercury. I can only say, five thousand three hundred Dollars is very low, the Copper is worth nearly that Amount.

It is true their is nothing now remaining of much

consequence but the Hull of the Ship, for what the Lawless D. Nicolas Noa has not robed hir of, has since been stolen at S Blas. The Ship Mercury is now an abandoned Hulk, she has been two years exposed to nothing but plunder. It is four months since I wrote the Cap^m Genl., if the ship was not sold their would be a total loss, at that time there was several People that wished to buy the Ship, but the season is now past and there is only Mess^{rs}. Cardoso and Nunes appears as Buyers.

If the Ship Mercury is not sold now, I do inform your Superior Excellency, that it will be a judicious plan to have hir calked and paid twice over, once with Tar and then with pitch, the cost will be a mear trifle, and can be done in a few Days, and whoever may hereafter purchase the Ship, will find it to their interest to pay for the same.

God preserve Your Superior Excellency many years. Tepic, June 9th, 1815.

I have the Honour to Remain,
Your Excellency's most obedient
Most humble Servant

GEORGE W. EAYRS

Sr. D.ⁿ Felix M.^a Calleja
Mariscal de Campo de los
R.^s Extos Virrey, Governador.
Capitan Gral de la N.E. &.

Captain Eayrs calls his vessel 'my ship.' The Spanish officials refer to it indifferently as *buque* (ship), *fragata* (frigate), *corbeta* (corvette), and *bergantín* (brigantine). Apparently the Mercury was a brigantine — almost certainly not a 'ship' in the proper sense.

Nowhere else in the pastoral period — nor up until the Argonaut time — have we such a light on the

modest commerce of California as is thrown by the papers in this case.

Among the articles which Captain Eayrs smuggled to the willing Californians were camel's-hair shawls, Canton crêpe, white nankin (at \$9 a bolt), silesia (at \$29 a bolt), double serge, English blankets, fish-hooks, gunpowder, shoes, bedspreads at \$9 each, silk kerchiefs at \$20 the piece, Canton canvas at \$13 a bolt, sewing and embroidery silk at \$12 for 22 ounces, linen thread at \$7.50 for 22 ounces, English linen at \$12 a bolt, Chinese silks at \$10 a bolt, common cotton sheeting at \$11 a bolt, plush at \$29 a yard, sugar candy at \$10 a keg, red cloth at \$9 a yard, a sextant at \$300, false pearls, hardware, crockery in great quantities, and cotton cloth beyond the dreams of avarice. 'Fray Luis' (Martinez) at 'San Luis' (Obispo) bought one bill of \$2134; and others did about as well. In return, the trader paid \$5 to \$9 for sea otter-skins, 6 to 8 cents a pound for the best flour, \$6 to \$9 each for bullocks, \$7 for hogs, \$5 for a sack of beans, \$6.25 per hundred for candles, \$8.25 per 150 for eggs, \$9 for 13 hens, \$4.75 per bladder of lard, 3 cents a pound for tallow.

At the same time the Flora put down to San Blas with its prize and cargo of exports from California — including over 1600 bladders of tallow for Lima, 234 rawhides, 120 rough wool blankets and a quantity of frieze, besides salted sardines and salmon, and a few barrels of brandy and wines, and seeds, and (the forerunner of a national industry) a large box of dried peaches.

There would be a human interest in knowing what became of the doughty Captain at last — what punishment, if any, was meted out to him for violating the strict protective laws of Spain for smuggling

along the California coast. But I fear we shall not know. No doubt somewhere in the musty *archivos* of Tepic or Guadalajara or the City of Mexico we might find the last ruling in this long-drawn case. But the search would hardly be worth the enormous labor and expense it would entail. We waded through the interminable passages of the Mercury case, nearly all in official Spanish (which is much less obscure and befuddling than our usual legal English), through endless repetitions, and with the general effect of a squirrel running industriously up his wheel only to step out at night, much exercised, but no farther ahead. We do learn that there were eight other New England vessels on the coast at this time engaged in this trade; that the Mercury was appraised by Captain Noé (the captor) for \$23,310.75; and that the best bid received was \$5300, against which the Captain vigorously protested.

England and Spain, of course, were not friendly, and New England bore the same stripe. It was a distinctly alien intrusion.

Russia was on friendly terms with Spain under a treaty as recent as 1812, and the presence of her fur-traders does not seem to have been obnoxious, though they had come so far down the coast as to have an establishment at Bodega Bay where Governor Cuscoffée was in command at the time of the present narrative. With him and the other Russian Governors scattered along the coast all the way up to Alaska, these Yankee traders had their only legal dealings; partly as traders, and partly as hunters of otter for the Russians.

We find also that at least one of Captain Eayrs's letters to the King of Spain (whom of course it never reached) brought down on him from the Viceroyal

Court a stinging rebuke for his 'outrageous and insolent language'; a charge which Captain Eayrs indignantly denies. What is a King of Spain, that a free-born American smuggler may not 'sass' him! The great mass of the latter part of the volume is made up of Eayrs's letters — but now translated in the Spanish, and without the English originals.

And so, with waning hopes we press on to the end — but on the last page of the 1137 of the *Mercury* case Captain Eayrs is still in Guadalajara, writing pleas for 'Justice,' and still sticking to his bare-faced assertion that he came to the coast of California only to get provisions (this in face of the invoice of his goods which he had brought from China with the express purpose of this trade, and his bills of sale to the Californians all along the coast). This last effusion is dated March 28, 1816, and complains that his case has now been going on for three years, and that the 'feet of justice are shod with lead.'

It is obvious, however, throughout, that he was kindly treated as a prisoner of war, and that the proceedings in his case were in full form of law. Whether he got back to the United States finally, we probably shall not know — unless some student stumbles upon him in the maritime records of Boston.

But his fate has no more value than a bit of pleasant gossip; the historic worth of the *Mercury* case has been set forth herein — this clear picture of the New England smuggling on the Pacific Coast at the time of our second war with England, with a little touch of the pastoral life of California; while the human — and humorous — interest is abundantly supplied by Captain Eayrs's flavorsome letters. We get more historic information out of this chapter than from a dozen Richard Henry Dana's, whose 'Two Years

Before the Mast' is a beautiful classic of a Harvard boy's sea-going, but almost absolutely worthless as to anything he observed in California, at a date when his observations would have been unspeakably precious to the historian — and to mere humans.

VI

THE SON OF NECESSITY

IT was in a trivial connection that Mr. Wycherley, well over two hundred years ago, made a world-proverb — 'Necessity is the mother of Invention.' Few playwrights have ever stated a great scientific truth so clearly even if so casually — and this one has never been better said. It might be added that the more modern the mother, the less immortal the son. Invention, the son of Necessity, is being born daily of multiplied mothers or near-mothers; but his stature in the world depends almost wholly on how far back the mother was that bore him, and how badly she wanted him.

We have to-day no sense of proportion as to this matter. We are bewildered and bedazzled by the rapidity with which inventions that seem to us of very great importance have been crowding upon us in the last few years, and little inventions of a thousand sorts are upon us every day. We are much more conscious of the modern conveniences which are our masters than of the stupid old fundamental things which every one has always known of. But it is just as well once and again to remember what the perspective is — and what sort of mighty sons old Mother Necessity had when she really had needs.

There is nothing esoteric or mysterious about figuring as to the magnitude of a given invention. The simple test is its necessity to human life. Inventions we could not possibly get along without are of the first magnitude; inventions whose lack would stunt the progress of humanity may be of second magnitude;

inventions that it would be hard to get along without for us spoiled children to-day may yet be of only the third magnitude, or perhaps the sixth; and it may be that inventions we think indispensable will on cool analysis prove of about only the tenth magnitude and entirely dispensable to people fit to stand on their own feet.

Civilized man has never made an invention higher than of the third magnitude, if above the fourth. Our most important discoveries are (about in that order) printing, steam, and the adaptations of the electric mysteries, like the telephone and telegraph and light and radio. No other invention within the last five thousand years would rank as above the fourth magnitude.

Your grandfather and mine knew nothing of Mr. Edison's astonishing inventions. Your great-grandfather knew nothing about the steam engine, or any other use of steam. Yet these were the men that founded the Republic and lived as noble and happy and as helpful lives as any of us can match to-day — if we can presume to pretend to match them.

So the electric light and radio and telephone and telegraph and steam engine and airplane are not really indispensable to human life; though God knows we are so spoiled now that if they were taken away from us we should suffer every pang of self-pity.

Printing is infinitely more important to us, though probably no invention of man has been so devolved of recent years to the degeneration of our minds.

But while the printers call it 'the art preservative of all arts' with much truth, and while they cannot all be blamed for the infinite amount of trash it also preserves, Moses and Homer and Socrates and Plato

and Virgil and Matthew and Mark and John and Paul got along perfectly well without printing — and their words are just as safe and living in our hearts to-day.

So even our very greatest invention of civilization is not what we might call indispensable to human life and happiness and usefulness.

Of course there can be no discussion as to the invention which stands at the very head of those of the first magnitude. And it is much the oldest (or next oldest) of all inventions, as it is to this day the most indispensable. Its sudden elimination from the economies of man would decimate the race and presently destroy it. We can give honor and medals to our Stephensons and Bells and Fultons and Morses — even to our Gutenbergs. But we know neither the name nor the country nor even within ten thousand years of his time, that we might erect a world monument to the stark and shivering Prometheus who first rapped careless stone to stone, caught the ephemeral seed of their impact, planted it in dry leaves, saw the red flower leap to bloom, and burned himself trying to pluck it.

But he learned to plant it and to handle it; and it made him comfortable enough to think without his teeth chattering out, and he presently found it good for what ailed his raw food. So by the slow degrees of primitive man, he developed the uses of fire, which is to-day the most vital and indispensable convenience at the command of man. We have applied it with innumerable and astonishing ingenuities; but it still is the great primal gift, to us and to all the ages, of that hairy brown man of the dawn of time.

Even if we don't know his name or country, or millennium — I think it would be a graceful thing to

erect in some greatest city of ours a noble monument by a great sculptor:

TO HIM THAT INVENTED FIRE

Probably next in time to this greatest of all inventors was the mute inglorious Edison of some million years ago who, first of men, observed that wood on water has the faculty of carrying not only its own weight, but something more. He was the great-grandfather of the navies of the world — as well as of all the intermediate devices that ever floated. He first caught the idea from straddling a log as it floated down the stream and finding that it would carry him and his pack. Then he found that by tying two logs together with withes, he had a houseboat for the family. And then that, by getting a whopping big log and scooping it out with his tools of fire and stone, he had a still better conveyance.

After him by the calendar, but second only to the firemaker in importance was the savage who invented Help. His first pack-animal was unquestionably the lady he had wooed with a club and dragged insensible to be the solace (and the stevedore) of his humble cave. He was not much longer in perceiving that the wolfish dog, attracted by spare bones, and the (possibly still five-toed) horse in the plain, were both wasting energies he could use in his business; and with withes around their necks and cudgels to their backs he presently persuaded them what they were here for. At any rate, the man who first domesticated animals (wives included), and saved his own back by way of theirs, was, next to the man who discovered fire, the greatest benefactor of mankind. This was (as Shaler showed long ago) one of the most important factors in man's own

development, his first and most important lesson in care and foresight and kindness.

Fourth here — and perhaps in time and perhaps in importance — was the man who first noticed that a round object rolls more easily than a square one. This pre-inventor of wheels first rolled a log and found that he could roll another log on top of it easier than otherwise transport it; in a few centuries or so he took two round pieces of the log and made something that would trundle his go-cart.

The fifth and last structural invention in the history of mankind was the canning of words. Speech itself man did not invent. It grew on him as naturally as finger nails — like which it is now too much manicured. It was a slow, stumbling, but never-ceasing process, that by which primitive man assembled and tuned and assorted his grunts to have definite significance. It may be true that man could get along without ninety-nine per cent of speech as it is jabbered to-day, but the other one per cent we need to court our sweethearts, and to convince our wives, and to stand off our creditors, and to Ask for More.

This was man's first mental discovery, so to speak — the one in developing which he had to use his mind.

The fellow who first took thought to tie his words so that they should not get away forever — with those little black hobbles wherein they hop across the page — he was the last essential inventor. The later device of putting his letters in the treadmill of type was merely an attachment.

Well up in the second magnitude, if not crowding the first, is that invention of the primitive man who

first put a seed in the ground and harvested its increase; thus laying the foundation of agriculture.

We have thousands of machineries and innumerable appliances and farm relief and other modern improvements. But this G-string savage, thirty thousand years ago, laid the foundations of that rude industry without which the world would promptly starve to death.

Certainly as high as the third magnitude would come the invention of sewing, which was made by man in his primitive stages. Nearly all of us would find it embarrassing to get along without this gentle insurance of the integrity of our garments. It must have been some job for the primitive lady to sew when her needle was of bone and her thread of sinew — but she did it.

We have invented books and newspapers and telephones and the telegraph and the radio; and we have, God knows, an overdose of all of them. But none of them would be of very much use unless —

Primitive man had invented words!

He not only invented speech; he developed it until it met all his needs; not merely to ask to pass the bread, but to make literature. And he made some pretty good literature, as well as good language, whose roots are in our common talk to-day.

We have invented art galleries; and perhaps few of our modern inventions have done so much for our salvation.

But primitive man invented art. And he carried it far. He had no old masters, and he certainly had no Cubists. But he was an artist, and whatever he did was with the artistic consciousness. His weapons

were works of art — doubtless the first art expression in the world. His cooking pots and every other furniture of life were as beautiful as he could make them. Where we use galvanized buckets, he used jars whose beauty is an ornament to our museums. Where we make things in a hurry and in vast quantity to sell, he made things at leisure and to use. Love and time and the human hand — these are the fundamentals of art; and to art he gave them all.

There is not an object made by primitive man which does not show the hand of the artist. Of course, some were better artists than others; but all were artists. One in ten thousand of us is somewhat artistic; which is why we pay professional artists to do things for us, at scandalous prices. That would be inconceivable to the primitive man (though he might make a dicker with his cleverer artist-neighbor for some artifact that delighted his rude heart), for primitive man had none of our idea of vicarious living. He sang for himself instead of hiring a prima donna to sing for him. He built for himself instead of hiring an architect. He fought his own fights instead of paying to see Tunney lick Jack Dempsey. He did his own art, instead of paying three quarters of a million for a Blue Boy. And in it all, and through it all, he was always an artist, without pater or art critics, or self-consciousness, or the market in his eye.

We have invented women's clubs and woman's suffrage. We don't quite know what to do with either — though they will tell us.

But primitive man invented mother love and wifehood. Aye, he invented women's rights, so long ago that the folklore of Moses is parvenu. The matriarchates of ancient man gave woman a better standing than she has to-day. And for that matter, among

the Pueblos and many other American Indian tribes, the old matriarchal standards are in force still.

We have invented modern politics — with all their crudeness and dirt and graft — chiefly due to our ‘slackering’ on our civic duties, and to leaving our political affairs to those who can get something out of them.

Primitive man invented government.

When he tired of living in his separate cave and came to communities (as he did early), he was prompt to organize. There was no graft, there were no salaries, no machine. They had to run the community — and they ran it, with a simplicity, an efficiency, and a cleanness that shame us to-day. It was simply a community proposition — and every one voted, and no one ran for office, but men were picked to serve. It might be safe to say that it was twenty thousand years before politics (as we understand them) were invented; but also it is true that among the first Americans our kind of ‘statesmanship’ is unknown yet. Here the office seeks the man — and he has to serve, without salary or ‘pickings.’

We have invented gas ranges and electric ranges and all that — and their fruit doesn’t taste to me like that from Grandma’s old stove.

But primitive man invented cooking — the art of applying fire to food to make it more palatable and possibly more digestible.

We have invented railroads and automobiles and other vehicles; and they have changed the face of the world for us, and also the face of our thought. We can get everywhere in a hurry, whether or not we have anything to do there — and the time consumed by our automobiles alone would give every one in the United States a college education.

But none of these get-you-theres would go far without something to roll it. And primitive man invented wheels.

We have invented cultivators and self-binding reapers and harvesters and a thousand other articles the farmer may get under mortgage.

But primitive man invented cultivation.

He was first to plant a seed and harvest its multiplied crop and to make wheat and other cereals a part of his daily life — and of ours so far later. Further, he invented every important crop we have.

We have invented Spencerian script and typewriters (both kinds).

Primitive man invented letters and writing; and without these neither of our modern improvements would get very far. Deprived of this one invention of its forgotten ancestor, civilization would be palsied.

We have invented gun clubs and game preserves and other places where those financially competent may slaughter tame game.

Primitive man invented hunting and fishing — and even, unconsciously, protection. He never killed 'the limit,' he never killed more than he needed to use.

The great American bison would have lasted the Indians forever; they slew them as they needed them, fresh or to 'jerk.' But that lordliest of New World game disappeared when our civilized hunters came out through Kansas on the new railroad and shot the buffalo off the train for fun; and then killed off in a few years ten million of these 1800 pound creatures simply for their hides or for their tongues.

We have invented baseball — no more a community affair, but a hireling institution. And football, less genteel than any savage game.

But primitive man invented games — a good many of them, some of which have lasted in their essence until to-day.

We have invented snobbishness and the Four Hundred.

Primitive man invented society — not in its pink-tea sense, but as the association of humans for mutual benefit and protection.

We have invented creeds.

Primitive man invented religion — and he had it harder than any one has since. It entered into every act of his life and wasn't just for Sunday.

We have invented cathedrals, and they are much the most beautiful things that modern man has ever done, with their architecture and religious awe and beauty.

But primitive man invented temples; and the spirit was the same in them as in any great cathedral. The temples built by primitive man are a wonderment and an inspiration.

We have invented emporiums and department stores (of which the little old tradesman of the country village, with his own shop, is now a cog).

But primitive man invented trade. And barter and buying and selling — though I fancy they had no bargain days, nor clearance sales.

We have invented drop-head sewing machines and electric runners — it was not until 1845 that Elias Howe perfected the first sewing machine.

But twenty thousand years before him, primitive man had invented sewing.

We have invented marvelous machines for weaving: weaving carpets, weaving cloth for clothes, weaving blankets — and every other fabric under the sun.

But primitive man invented weaving.

He practiced it with the rudest looms, to be sure, but with a cunning hand, and wove fabrics which astonish us to-day. The hand-weaving of aboriginal people surpasses the fruit of our best looms — for it has human love and intelligence behind it which the machine cannot share. The Inca and Yunca weavings two thousand years ago and the best Navajo blankets of two hundred years ago cannot be matched by any whirring modern loom. And of course this is true of innumerable loom-products of the Old World peoples, running far back to antiquity.

We have invented, also, machines to take the place of carpenters — though they can't replace a real craftsman.

But primitive man invented carpenter's tools, and used them, with astonishing skill and effect. Only the best of our old-time cabinet-makers can match the dovetailing and joining done by man in far antiquity.

We have invented fashions — and let them make a fool of us as ancient man was never made a fool by any of his customs. A jury *de lunático* from Mars, sitting upon our sanity, would need no further evidence than a few exhibitions of the dress of modern men and women — if we can use the word of the latter.

But primitive man invented clothes, and wore them to his comfort and his protection — and probably to his embellishment, which is all that may be asked of apparel.

It is just as sure to the anthropologist that the cave-man managed to look his smartest as it is that there was a cave-man at all, of human birth. But no abo-

rigine in all the world's wide rim ever fell so far as to have tailors with dictatorial powers. He and his ladies didn't have to change the style two or three times a year — nor at all. If it was a comfortable style, and looked well, there you were. It was only when he devised some improvement in warmth or in wearing convenience that he changed the mode. Whereas with us, the 'smart' people, there is a constant expenditure of thought and a profligate waste of money to change just for the sake of change.

We have invented medical colleges — which are grinding out young experimenters upon our health by the myriads a year.

But primitive man invented medicine; and while it was never patent, he felt his way by just about the same enlightened guess that medicine does to-day. Incidentally, some of our most vital remedies are derived from primitive man, like quinine, and cocaine, to say nothing of jalap and sarsaparilla.

We have made wonderful advances in surgery, perhaps the most notable of modern developments, and incomparably ahead of medicine.

But primitive man invented surgery and practiced it in his crude way — and if perhaps the operation wasn't so brilliant, perhaps neither was the patient likelier to die.

We have invented hospitals, and largely delegated to them those human needs that used to be of home and the good old family physician.

But primitive man invented not only doctors — but even doctors' bills! They were not made out on embossed stationery, nor for a king's ransom; but were payable in goats or sheep or other ancient barter. For that matter, one of the last of the old school of family doctors that I knew practiced for

thirty years in New Mexico, with an average of five hundred dollars a month — mostly payable in firewood and barley for his horse, and meat and *frijoles* and *chile* and barrels of good old Rio Grande claret and brandy.

We have invented skyscrapers to beat the Tower of Babel; and I know of nothing more inhuman than one of these great buildings vomiting out at 5 P.M. twenty thousand people who have been hived up there throughout eight hours of the working day. They are (some of them) magnificent as architecture; but anthropologically, they are a threat.

Primitive man invented houses. He also invented architecture—and some of it that runs back to the dim mists of time still excites our wonderment.

We have invented hotels and bungalow courts and flats, where people eat and sleep and fuss and work, and children stew for a bit of the outdoors.

But primitive man invented home. No matter how crude it was, it was *his* home. He had elbow-room and so had his woman and children. And freedom of the great outdoors; and shelter and privacy.

We have invented horse-races and horse-shows; the one chiefly for betting, and the other chiefly for clothes.

But primitive man invented horses. That is, he ran down this wild beast and tamed him and made him his servant and companion; and any cowboy knows which better loved the horse, the ancient man who tamed and used him or the civilized man who breeds him for prizes, but couldn't ride him except on tanbark.

The same may be said of the dog. We have blue ribbon shows of him, and a few people make a strut

of some prize specimen as personal bodyguard; though there are still folk, thank God, who have dogs as pals — common dogs, dog-dogs.

Here again, primitive man lured this wild beast to his cave, and then treated him with bones and kindness and made him a companion.

Likewise, it was not we, but primitive man, who gave us the cat to sing by our chair, and the pig and the hen, and the cow. All of these useful creatures were 'spotted' and reduced to usefulness by man in the remotest past.

And speaking of the cow: we have invented sanitary and even electric dairies, where the rude hand of man never touches the teat and the white fluid comes to us without human contact. But it was ancient man who invented the art of milking and gave us milk for the babies whose mothers can't. Among simpler peoples, that would be another thing; but in our acute civilization, everybody knows that if it weren't for the milkman, there wouldn't be much of a second generation.

In metals we have done better; for we have invented both steel and aluminum.

But primitive man invented and worked in gold and silver and tin and brass and bronze and iron. Which may remind us that while we have invented the Federal Reserve and the United States Treasury, primitive man invented money. He had no thought to hoard it up in millions nor to make it his taskmaster. He wanted money for what it would buy. Which shows that he *was* primitive indeed! Also he had iron, bronze, silver, and gold money — but never greenbacks.

We have invented incandescent lights and various others — only fifty years ago.

But primitive man, twenty thousand or more years ago, invented light.

I remember back myself past Edison (for ten years after the wires were in my block, I read proofs by two candles) and through the old kerosene lamps of manifold diversities and the whale-oil lamps and tallow dips of old New England.

We have developed advertising past the wildest ecstasies of the superlative. Proportion being lost, it has no sober meaning now.

But ancient man invented and used publicity; his heralds roused the countryside with announcements of what was to be done and when.

To this day, among my Pueblos in New Mexico, the *pregonador* climbs the little hillock of centuried house-sweepings in the center of the village, and from stentorian lung tells forth the message for the morrow, in words that can be heard two miles. There is a 'Daily Herald' for you, without real estate ads. or scandal!

We have invented glee clubs and oratorio societies, and both are a dear wonder when conducted by an artist.

But primitive man invented song. He sang it, not for money, but for his own joy. And song belongs within the third magnitude, at least. We have, indeed, invented harmony, our only great contribution to music; for man so long before us had melody and time — the latter, in a way we can hardly rival now.

Likewise, we have invented brass bands and philharmonic orchestras, but primitive man invented musical instruments — in great variety, and some of them of great beauty.

We have invented sixteen-inch cannon, rifles and

shotguns, and innumerable other lethal devices; but primitive man invented the first weapons (of which there were many kinds), and used them with much effectiveness.

And when he sat with his bow in hand, waiting for something at which to launch an arrow, he idly strummed the taut string, and there was born the grandfather of the violin, and of every other stringed instrument.

It is a pity that we couldn't hope for music from our sixteen-inch guns! I have stood at target practice on the U.S.S. New Mexico, within fifteen feet of the fore turret, while the fourteen-inch guns went off in salvos of three; and while it was convincing, and sucked the pledges from my ears incontinent, it wasn't what I would call musical nor care to have played to me often.

Incidentally, we have invented 35,000-ton dreadnaughts; and they are marvels of human ingenuity and efficiency.

But it was primitive man, more than twenty millenniums ago, who first invented boats — and sailed them.

We have invented smartness and flippancy — primitive man invented reverence. We have invented the modern generation — he invented filial respect.

We have invented criminal lawyers — he invented law.

We have invented courts with their delays — he invented justice.

We have invented fiction — he invented literature.

We have invented rhyme (and also free verse) — he invented poetry.

And so it runs through all the chapter. Our latter-day-Necessity, dwarfed and luxurious and self-indulgent, bears a thousand brilliant brats of invention that run our errands and amuse our idleness. There is not one of them that a hardy race could not perfectly well get along without if it were wiped off the map to-morrow. But mighty old Mother Necessity of the primal days — she bore giant sons, with not one of whom civilization could possibly dispense nor survive without.

VII

INDELIBLE SPAIN

THERE are no more interesting nomads than words; no others which can so go gypsying to the ends of the earth and homestead there — yet still retain residence in their birthplace. And among these wanderers from mouth to mouth, that outlast time and laugh at space, no others have quite such romance to us as those we have adopted from Spanish America. We have never borrowed as many words from any other contemporary language — except French, so much more intimate neighbor of our ancestors. Nor have any others stood quite so intimately linked with the beginnings and most picturesque phases of our own national life.

It is astonishing what a successful invasion of English has been made by the sons of those who failed with the Armada. With the ebb and flow of frontiers, the innumerable driftwood of the Castilian tongue has lodged here, there, everywhere. And where it once came it was never forgotten.

The Iberian had an almost matchless aptitude at nomenclature; an ear not only for music of the tongue, but for harmony of meaning — both of which are rather lost on a race of Smithvillains and Jonesburrowers. He rather overdid the saint business, perhaps — though saints may be as good godfathers as are crossroads autocrats. But aside from that, his names were all melodious and the rest of them almost invariably appropriate. For the one reason or the other, they have stuck like burrs. Two

thirds of the geographical names in the New World to-day are of Spanish derivation.

The same linguistic tracks are abundant in every other walk of American life. This gallant name-putter has penetrated ubiquitously and intimately the speech of his traditional foe. You will hardly turn a corner in our dictionaries without running up against him. Nothing but words — yet it gives one a little thrill to find all across the deserts where they left their bones, in every nook of the unforeseen empires that have grown upon their dust, these unobliterated footprints of the Spanish pioneers.

If any word might offhand be taken for straight English (and Cockney at that), 'Piccadilly' might. But 'Piccadilly' is no Londoner, nor even a Saxon. It came straight from Spain and the Spanish participle *picado* long ago — when a *picadillo* (little pierced) collar had a very different style from the now much-advertised one.

And what word could be more flavorsome of our South 'befo' de wah' than 'pickaninny'? Yet it is not a native of our cotton-belt: it came from Cuba, where it was *piquinini*, and its parents were the Spanish *pequeño niño* (little child). Our very word 'negro' is a direct transfer from the Spanish *negro* (náy-gro), black, and that other commonest nickname, 'Sambo,' is from the Castilian *zambo* (bow-legged), a *mote* invented for the African before there was an English-speaking person in all the New World.

'Mulatto,' 'quadroon' (*quarterón*), and the like, are of the same parentage. The first European settlement of the New World brought about a great variety of racial crosses, and breeds. It became a matter that required the most scrupulous cognizance of courts to fix the status of some one who made application

to be 'adjudged white.' Already in the sixteenth century there was a long list of these castes, precisely defined, and often of curious names. A competent artist in Mexico painted a set of oils on copper (I think twenty of them) graphically depicting these different classes.

You will hardly pick from the New York gutter a more typical gamin word than 'Dago'; but here again the street Arab is debtor to the true Arab heir, for 'Dago' is only an ignorant corruption of the Spanish patron saint *Diego* (dee-áy-go), James.

The New England housewife could not make pumpkin pie without a colander (which she calls cullinder), that useful strainer whose holes and name were invented long before Plymouth Rock: the Spanish *colador*. And, so far as that goes, what Yankee boy stowing away some of Grandma's cookies, with joyous munching of the little brown seeds, dreams that 'caraway' originated not among the Granite Hills, but in Spain, whose *alcarahueya* came still earlier from the Moors? Even the cloves in the sweet pickle are only Spanish nails (*clavos*); and the old farmer's almanac gets its name from Arabia through Spain.

If any one now remembers when they wore such things, it would doubtless seem sure that 'furbelow' was a strict old English word, as formal as the antiquated dress it decorated, and beloved of Suckling and Herrick. But 'furbelow' is straight and exclusively from the Spanish — both the word and the trimming, the Spanish *falbalá*.

I have hunted practically every kind of game in the Americas, except the bison — I was too late for that, though I saw the last wild one killed in Kansas.

From a boy of ten with my first little shotgun, through the years when rabbits and partridges and quail were still good sport, but caribou and moose still better, and wild-cats and panthers and black bear not to be despised; and in the more ample West, the big horn, the elk, the cinnamon bear, and the mountain-lion; and farther south the devilish little peccary and the jaguar and the eighteen-foot alligator. I had ripe experience as a trapper, and I fancy that no young blood ever thrilled more than mine did with the joy of the chase — the pitting of wits against shrewd creatures.

In later years, I came to enjoy bloodless hunting quite as much; to stalk my game and lie and watch it in the very human happiness of its home life. But no hunting for any game ever gave me more suspense on the trail nor a finer thrill at the conquest than hunting wild words. I mean, of course, trying to trace the origin and the native sense of words not yet pressed between dry leaves by the lexicographers.

Perhaps the most exultant scalp I ever took on this warpath for words was years ago when an illiterate Mexican, in telling me about how the coyotes were bothering him, remarked that he was going down to a distant region to get some *escumpatli* with which 'to fix' them.

I had heard the word a thousand times on the frontier among my Spanish and Indian friends, and knew that it was an herb which was used to poison noxious animals. But to-day it fell on my ear with a challenge; I had never seen it in print; I don't know that it ever was in print. So I pricked up my ears, sniffed the scent, and started on the trail.

And it was a long trail! Through scores of the old Spanish chronicles I hunted; I went through the ap-

propriate chapters of Herrera, of Torquemada, of that classic of Sonora, 'Rudo Ensayo'; and of Pimentel.

I searched my thirty venerable Spanish dictionaries — dated from 1565 onward and in Spanish-Spanish, Spanish-English (as early as 1598), Spanish-Latin, Spanish-Dutch, and so on. And after going through not only the dictionaries, which were easy, but fifty thousand unindexed pages, which wasn't so easy, without finding a trace — my hunter's blood was up.

Then I stumbled on my little shabby copy of Vetancurt's 'Teatro Mexicano,' 1640 (to have even a shabby copy of this rare and learned book any one is in luck); and I started in hunting for the footprints of my quarry on its trackless waste. You remember I was hunting *escumpatli*. And suddenly my game jumped up and bit me in the face.

Yzcuinpatli!

There it was, plain as day! Then, of course, I saw its parentage. The *patli* was obvious from the start, being the Aztec *patli* — any medicinal herb. But *escum* meant nothing — whereas *yzcuintli* is Aztec for dog. There we were: just dog-bane.

And I had a war-dance over this scalp.

Almost next to this in the joy of the chase was the Search for a Father of that Japhet word, in use among all American cowboys everywhere, 'hoss-wrangler.' There were personal as well as dictionary reasons for interest in this hunt. Theodore Roosevelt and I had become friends at Harvard in 1877 — as near as a sophomore and a freshman could bridge that most impassable gulf in the world. A great many years later, when we had both turned from Harvard University to the Higher Education of the West, and he

was writing his immortal 'Winning of the West,' I was down in New Mexico, writing about the Southwest and Spanish America; he used to write me now and then to ask for information about the origin or proper application of 'cowboy' and other terms borrowed from the Spanish. Finally I got a letter from him asking what in the world 'horse-wrangler' had for parentage. I didn't know — but there was another hunt.

But that didn't take any back-trailing of musty pages — for it wasn't in any page anywhere, until I put it in one. It needed only that I follow the advice that old N. S. Shaler used to give us in Harvard: 'Use your brains, gentlemen; use what brains you have.' I knew what a *hoss-wrangler* is in fact — namely, the *vaquero* or cowboy who is in charge of the spare riding ponies of the outfit (for every cowhand needs at least five spare ponies). But what had an Oxford Senior Wrangler to do with the riding ponies? Nothing whatever. Then I remembered some of my most ancient Mexican *vaquero* friends; they knew nothing about a 'hoss-wrangler,' to be sure — but they had with every outfit a *caballerango*!

Sho! The Texas and other Saxon butchers of every language including their own, all knew that *caballo* is 'hoss.' They didn't know what *erango* meant, but it sounded like wrangler to their illiterate ears; and so 'hoss-wrangler' was born — a word that became universal wherever there is a cow-ranch in the United States. Yet if it hadn't been for the inquisitive 'Teddy,' we might never have learned how it came to be, for its paternal word is so near obsolete that you would find it hard to discover any one to whom it was known.

Very naturally from this cowboy word a blunder-

ing derivation has come into rather common use — an entirely new sense of the verb ‘to wrangle.’ In all the dictionaries, that means to argue or dispute; but all over the West, at least, it has the sense (obvious from the foregoing explanation) of herding, taking care of, keeping watch over: as the hoss-wrangler keeps the saddle ponies from going astray; and with the renaissance of the cowboy by way of the picture films and Hollywood, the cowboy vocabulary as well as the cowboy garb is much in use. For example: ‘He’s good at wrangling dudes’ — that is, a veneer cowboy could herd or take care of a party of tenderfeet anxious to learn the West.

In sober fact, a California court, in June, 1928, adjourned until it could find information as to the nature of ‘a horsehair McCarthy.’ There could hardly be a more perfect illustration of the Texas cowboy as a linguist. His Mexican fellow riders talk about a *mecate*, which is from the Aztec *mecatl*, and simply means a rope of any sort. So a horsehair McCarthy is not an Irish freak; but simply a horsehair rope, used very extensively on the Border for leading; but seldom as a *reata*, for of course the rough hair does not slide through the *fonda* as readily as the ‘slick’ braided rawhide.

I do not know what these *Tejanos* would have called the luxurious sixty-foot rope, about five-eighths inch in diameter, which one of the last old expert Mexicans braided for Ed Borein, old-time cowpuncher, but for twenty-five years one of the foremost etchers in America. The folly which set the tresses of women to falling was not without some redemption. When Ed learned of any lady who was going to sacrifice her locks, he would beg the bequest of them; and he got the rich harvest of hundreds

of heads — black, all shades of brown, gray, snow-white, gold, and some of the most beautiful red that ever glistened in the sunlight. And his wise old pleater sat and wove these tresses into their appropriate lengths, making perhaps the most beautiful and the most distinguished hair-rope in the world. I suppose the Texans would have called it a 'squaw-hair McCarthy.'

'One hundred per cent American' in name and content is that savory dish, a household word throughout Spanish America and through California and our Southwest (and I believe now not unknown in the more enlightened corners of the east), the *tamal*, ordinarily but incorrectly spelled 'tamale' and sometimes 'tomale.'

One amiable dictionary speaks of it as 'A Mexican dish made of Indian corn and meat seasoned with red pepper.' Which wouldn't be much of a recipe to go by! It originated, no doubt, in Mexico, as did its name, which is from the Aztec *tamalli*. Its physical structure is of the meal of the American Indian corn, but its heart is of particles of meat in a smother of the American *chile* or red pepper. But even this doesn't constitute a *tamal*. Its outward and visible garment is several lapping layers of American corn-husks, tied at either end with strings of the same, and the whole boiled to a turn. After which the string at one end is cut and the various layers of husk are scraped until the whole content is on the plate. And there are few better national dishes anywhere than a well-made *tamal*.

After the Spanish War of 1898, a curious bungling word spread over the country with great rapidity: 'Hoosegow.' It was brought back in this form by our

soldiers from Cuba and the Philippines, where apparently plenty of them had reason to remember the word from which it is so curiously deformed. It is the 'American' rendering of *Juzgado*, the Justice Court, and by next door implication, the lockup. I have never seen it spelled correctly in any American publication, but hoosegow is now a household word.

The least venerable of these adopted words — but probably of most multitudinous application — is the new-fledged 'cafeteria.' This is a parvenu but entirely lawful Spanish-American word, apparently first applied in Mexico and California. It is derived not directly from *café*, but from *cafetero*, one who conducts an establishment in which coffee and similar refreshments are sold; a seller of cup coffee. It is of the same legitimate etymology as the venerable *lavandería*, the place of the *lavandero* or 'launderer'; as *carnicería*, the place of the *carnicero* or butcher; as *carpintería*, or shop of the carpenter (which is also a familiar town name in California).

There are a great many of these words, all homologous. All of them are accented on the penultimate; so it is 'ca-fe-tay-REE-a'; and not 'cafy-tay-ria.' It has not yet been included in any Spanish dictionary — at least up to the time of the monumental *Enciclopédico*. Nor is it in the new volumes of the Century Dictionary; but it is absolutely legitimate Spanish formation — one of the very few new coinages which will stand the test of etymology.

Some time following 1853, the cafeteria was introduced into Los Angeles, California, though 'rather a place for drinking than for eating.' This was one of the first American cities to adopt in later years and on a large scale, the modern self-helping restaurant.¹

¹ Harris Newmark: *Sixty Years in Southern California*, 1916, page 133.

Needless to say, its musical name is mispronounced by the majority in the City of Angels, where two thirds of the population butcher the name Los Angeles in twelve distinct and recorded varieties of blunder. The overwhelming slaughter in the latter case is in 'jellifying the g.' You can't say jelly, nor George nor even Jim in Spanish. But most of the population seem to take Our Lady of the Angels to be one 'Lost Angie Lees.' Almost any pronunciation will do which recognizes the two vital points — for no English-speaking person can be expected to give the exact Spanish term. But even our lally-mouths should be able to get:

O, long, G, hard, and rhyme with Yes.
And all about Loce Ang-el-ess.

The 'calabash,' which once made water from the old well taste sweeter than water will ever taste again, is another loan of Spain, its derivation being from *calabaza* (a gourd). But it has lost its prettiest romance — in all Spanish America the gift of *las calabazas* was equivalent to 'the mitten.'

The vagrant clapped into the 'calaboose' still finds the connection — for it was originally *calabozo*. The merchant prince would hardly be an heir-apparent were there no such thing as 'cotton,' and that gets its name from *cotón*, and that is from *algodon*, with its Moorish earmark. 'Cottonade,' even, is from *cotonada*.

'Palaver' was a politer term before its corruption from *palabra* (word); and 'savvy' did not smack of slang when it was plain *saber* (to know). A 'peccadillo' is unchanged in form and meaning: a little sin — the diminutive of *pecado*. The Kentucky 'duel' had its precedent and name from the Spanish *duelo*;

and Mosby was not the first 'guerrilla' — a little war, diminutive of guerra. New Orleans may not care a 'picayune,' but that proverbial coin is another Spanish tag — and so were those unforgotten pieces of our childhood, the pistareen, doubloon, and *real*. Indeed, the 'bit,' 'two-bits,' 'four-bits,' etc., which so perplex the tourist in the West, are derived from Spanish standards, though they have lost their Spanish name; and so is our almighty 'dollar.'

The doctor could not afford to lose a great many adopted Spaniards from his lexicon; particularly 'quinine' and 'cocaine.' Quinine (Spanish *quina* — made from cinchona bark) was discovered by the Countess of Chinchon, then Vice-Queen of Peru, in 1631. 'Cocaine' is the active principle of *coca*, that marvelous plant of the Andes which is almost board and lodging to the Serrano Indians of Peru and Bolivia, and has been held sacred by them from time immemorial. They call it by its Quíchua¹ name, *cuca*, whence the Spanish *coca*, which we have adopted. Jalap comes from Jalapa, in Vera Cruz, and sarsaparilla is another debt to Spanish America in name and fact.

It is fascinating to *trail* some of these word-wanderings. Four hundred and thirty-eight years ago Columbus picked up a little word in the Antilles and put it in the mouth of Europe; and to-day an American summer would be lonely without it. It was an Indian word which the Spaniards represented by *hamaca* (ah-máh-ca) and which we call 'hammock.' The word 'Indian' itself (in the sense of American aborigine) dates from the same time, when the world took Columbus's discovery to be part of India and called it *las Indias*, and the inhabitants *Indios*.

¹ Or Quechua.

The proper name of the American lion to-day 'puma' — and that is an Inca word that Pizarro found in the fifteen-thirties among the Andes. The animal has a range five thousand miles long, but its Peruvian name came up to the Isthmus, took root in Mexico, entered Arizona and New Mexico with Coronado himself in 1540, and by now is accepted not only in all Spanish countries, but wherever English is spoken.

'Cougar,' the next best single name for the animal is from the *cuguacuari* of a tribe in Brazil. 'Condo' has a similar history. It is the Inca word *cuntur* (from *cunot'urí*, snow-biter) done into Spanish and broadcast over the world. *Cuye* or *cue*, the proper name of the miscalled guinea-pig, is another Peruvian word. 'Jaguar,' the American tiger, was *jaguari* (ha-gwah-ri) among the Indians of Brazil. The 'manatee' or river-cow, is from *manatí*, the Spanish form of another Brazilian word; 'macaw' is from *macaw* and 'margay,' one of the most beautiful of the tiger cats, is one more Spanish importation from the Amazon.

The greatest of snakes, the 'boa,' was named by the Indians of the Antilles. 'Coati' (a species of monkey) and 'tapir' (Spanish, *tapiro*) are also from South America. 'Chinchilla' is a pure Spanish name for the fine-furred little beast the explorers of Peru first made known to the world; and the like is true of 'armadillo' (the little armored creature; from *armado*). 'Vicuña' (vee-coon'-ya) is the record of curious misunderstanding. The Aymará name of this most beautifully furred animal is *huari*, but the infinitive of their verb which means to cry like *huari* is *hui-cuña*. Probably the first Spaniards who heard that strange sound asked, 'What is that?' and

mistook the answer, 'It bleats,' for the name of the animal.

There is a whole lesson in etymology.

A similar blunder is probably responsible for the name of the vicuña's bigger cousin, the llama. The Aymará name of it is *cár-hua*, but we may guess that the *conquistador's* question, '*Cómo se llama?*' ('What is it called?') was merely echoed by the Indian, who did not understand a word of this new tongue. 'Llama?' he repeated; and 'llama' it has been ever since. A great many words get into the dictionaries no more wisely. It is said that 'kangaroo' (which is no Australian name of the beast) arose thus. One of the earliest English visitors having killed a marsupial and asked a native, 'What do you call this?' the native answered, 'kan-gú-ru' ('I do not understand').

The four most curious animals in the New World are the little camels of the Andes: the llama (l'yah'-ma), vicuña, huanaco, and alpaca. The latter name (familiar to every woman, though few that speak English ever wore a thread of *genuine* alpaca) is a corruption of the Inca word *pachu*, with the Moorish-Spanish prefix *al*.

There is a whole vocabulary of native American words, in scores of different tongues and all the way from Colorado to Patagonia, which we have adopted into 'United States' solely from the Spanish version of them. Some of the most interesting are from that remarkable federation of tribes which controlled the 'Lake' of Mexico and its environs. 'Coyote' is Spanish, from the Aztec *coyotl*. 'Ocelot,' the Mexican tiger-cat, is another Aztec word, originally *ocelotl*. So is 'chinchonte,' the nickname of the mocking-

bird, which was first discovered by the *conquistadores*. Its Nahuatl name was *censontli*. Likewise 'tecolote' (from *tecolotl*), the widespread name of our little prairie owl. Even 'tomato' is from the range of Montezuma, by name and by nativity. It is merely the Aztec word *tomatl*.¹

'Cayman,' the proper name of the alligator, is the Spanish form of the Carib name. 'Alligator,' by the way, is a very funny and very typical instance of the way new words come. It is a corruption of the Spanish *el lagarto* (the lizard).

Other animal names we get from the Spanish pioneers are 'peccary,' a South-American Indian word for the fierce little wild hog which used to range from New Mexico and Texas to Chile (it is called *javelí*,² another Indian word through the Spanish); 'parroquet'; 'burro' (from Spain); 'iguana' (from Hayti); 'toucan' (from Brazil). 'Jigger,' or 'chigo,' the terrible tiny parasite which burrows into the flesh of the feet, and often causes loss of limb or life, gets its name from the Spanish *chigre* (chee'-greh). 'Cimarrón,' the mountain sheep, is a Spanish word which means 'wild,' and is also the original of our 'maroon' as applied to runaway slaves. 'Mustang' is a border corruption of *mesteño*; and 'bronco' (which ignorant people still persist in spelling 'broncho') is a pure Spanish word for an unbroken horse. It is 'bron-ko,' not 'bron-cho'; and *ch* in Spanish has invariably the sound we give *ch* in 'church.' Some people seem to fancy that 'bronco' is Greek, and some relation to 'bronchitis.'

The unlettered frontiersman adds more to our dic-

¹ Etymologically, therefore, the pronunciation 'tomayto' is impossible.

² Ha-ve-léc.

tionaries than does the student. A similar case to that of 'alligator' is 'lariat' — which is as near as an ignorant cowboy came to the Spanish *la reata*. 'Lasso' is a like blunder for the Spanish, *lazo* (a noose).

Of far more limited familiarity, but fully as typical of our ineptness in catching the foreign accent, is the cowboy's 'dallies.' This is current wherever there are cowboys. The Texans caught it from the Mexican *vaqueros*. When one roped a horse or steer, if he was not quick-witted to do so himself, some comrade would yell '*Dale vuelta!*' that is, 'Give it a turn' — of your rope around the saddle-horn. The 'turn' has disappeared, and only the distorted 'give it' lives in the 'dallies.'

'Canoe' is *canoa*, a word the *conquistadores* picked up in Hayti; as they did 'guano' (Quíchua, *huanu*) in Peru.

'Jerky,' or 'jerked meat,' is another Spanish find, in fact and name — the latter coming from the Aymará (Bolivia) *charqui*. 'Chocolate' (cho-co-lah'-te) the *conquistadores* gave us from the Lake of Mexico. Its derivation is from the Aztec words *choco* (*cacao*, the proper name for the chocolate nut) and *latl* (water). 'Cocoa' also comes from *cacao*. 'Potato' is from *patata*, the name given by the Spaniards to that now universal tuber which they discovered in Ecuador a generation before Sir Walter Raleigh was born. Even more important, they were the first Europeans to discover what we call 'corn' (in Europe 'corn' without the prefix 'Indian' means wheat, barley, oats, etc.); and the proper name, 'maize,' comes from *mahiz*, a word they learned, with the use of the grain, from one of the tribes of the West Indies.

These words, which we have more or less un-

consciously derived from the Castilian finder and founder of the New World, crop out even in such unexpected places as our colonial history. There would have been no 'grenadiers' at Bunker Hill except for Spain, since the hand-grenade and the grenadier both get their name from the city of Granada; and that is christened for the pomegranate; and even as that beautiful fruit, for which Persephone traded her home, is filled with little seeds, the hand-grenades are filled with 'seeds' of Death.

The 'Greenhorn' Mountains in Colorado were not named for the tenderfoot, but a century before his day were christened *cuerno verde* (green horn), for a famous Comanche chief of the time. For that matter, Colorado (the red), Texas (the tiles), Nevada (the snowy), Florida (the flowery, the Spanish word being sounded flo-ree'-da), Utah, New Mexico, Arizona, and California were all named by the Spanish long before any English-speaking person ever heard of them. So was Labrador — the laborer.

One of the queerest of these linguistic orphans is the English 'cordwain,' which does not look much like its own father. It is from *cordovan* (leather) — for through centuries the Spanish city of Cordoba made the best leather in Europe

Among fruits whose use and names we learned from our Spanish predecessors are our California pride, the 'apricot' (Spanish *albaricoque*, from the Moors); the *banana*, *granadilla*, *guava*, *cherimoya*, *pitihaya*, and *pómelo*; the pecan nut and the piñon (peen-yohn'). The mahogany tree (Brazilian *mahogani*) or caoba; the palmetto, yucca, mesquite, maguey, and many more, remind us of our further debt in trees.

Indigo and aniline dyes are also derived from the Spanish. So are 'cochineal' (*cochinilla*) and 'caoutchouc' (*cahuchu*). *Guaco* is a common and beautiful weed from which Waco, Texas, gets its name; of its root, the prehistorics made the imperishable black for decorating their beautiful pottery; and to this day in blossom time the flower is a heaven for humming-birds.

Alfalfa, the king of all forage plants, came first from Spain to Peru; thence to Mexico and up here; and its name still testifies to its Moorish lineage. Our mutinous wild 'alfileree' gets its name from some unlettered granger's attempt upon the Spanish *alfilerillo* (al-feel-e-reel'-yo). Any one who will once notice its seed-vesicles will understand the aptness of its name, which comes from *alfiler* (a pin). The feminine form is a blunder of our dictionaries. The Spanish Californians call it always *alfilerillo*, and no one, despite the dictionaries, ever calls it *alfileril-la*.

The beautiful but humble little grass which used to clothe the buffalo plains and still further of the Southwest, and so frequently called buffalo grass or mezquite grass, is the *grama* — another contribution from the Spanish. Europeans and Easterners look at it and say, 'Why, cattle would starve to death on that bare range!' But this little grass, curly and clinging close to the soil to protect its roots in arid lands, and sending up its tiny bannerets of brown, is one of the most nutritious forage plants known. The vast herds of buffalo throve on it; and on it in later years have thriven hundreds of thousands of American cattle and sheep. It is 'hay on the hoof' — it cures itself on its own roots, and is good the year around.

'Alcove' is from Spanish *alcoba* — and back of that, of course, from the Arabic. 'Corridor' is Spanish,

and so is 'mosque.' 'Adobe,' 'plaza,' 'pueblo,' 'presidio,' 'azotea' (the flat promenade roof), and 'jacal' (hack-ál, house of palisade chinked with adobe) are all Spanish unchanged in form, though frequently enough butchered in pronunciation.

The sailor's 'capstan' is of Spanish invention and christening (*cabestran*, rope-winder). 'Filibuster' is from *filibustero*; and 'caravel,' 'flotilla,' 'armada,' and 'galleon' are as recognizable to any intelligent reader as to the mariner. 'Mariner' itself, by the way, is of the same nationality, being from *marinero*.

'Renegade' (*renegado*) and 'creole' (*criollo*, properly used only of the children born in America of Spanish or French parents, and pure-blooded) are familiar words to every one, as are 'mestizo' (mixed breed) and 'cholo' (cross of European with Indian) to the scientist. 'Coyote' is also used by 100,000 citizens of the United States (though the dictionaries wot not of it) in a secondary sense to mean a half-breed.

'Grandee' and 'don' need no introduction; but every one may not remember that even our English 'admirals' were beholden to Spain for their title, which still farther back was derived from the Arabic *amir-al-bahr* (commander of the sea). Then there is 'hidalgo,' that true aristocrat of a word, *hijo de algo* (son of Somebody).

Miners would be rather lost without 'el dorado' and 'bonanza,' and 'placer,' and many other words we have inherited from the first American Argonauts. The very 'frontier' they love is only the Spanish *frontera*.

'El dorado' we generally write as one word, and take to mean 'the golden.' But it is of course *el* (the) *dorado* (gilded). Up almost to the time of the Spanish Conquest, the cacique of a certain tribe on the

Colombian Plateau used annually to pitch his stark body with copal, and over this his attendants dusted showers of gold dust and little nuggets, which made him look as if in a skin of gold. Thereafter he was paddled out on a raft to the center of the Sacred Lake, where he plunged in and washed off with numerous incantations his golden covering which sank to the bottom as an offering to the Spirit of the Lake. Modern dredging here by scientific institutions has discovered a great quantity of the quaintest but most beautiful figurines of solid gold, which came to be deposited there in this way.

The 'keys' of our Florida and of other tropical coasts have no relation to locks, but are a corruption of the Spanish *cayo*, a coral reef. Nor is our most southerly city, Key West, so named because its reef is the most westerly of the whole group. It was named *Cayo Hueso* (Bone Key), because many bones were found there from some old battle.

Our Castile soap, and Lima (Peru) beans; our sherry (Xeres), port (Oporto), Manzanilla, Madeira, Canary, and Amontillado wines are not much 'masqueraded' (another Spanish word); but it is not so easy to recognize in the 'sirroons,' so familiar to the indigo trade, the original *zurrones*. 'Filigree' is a bit wide from *filigrana*; and the German 'canaster,' tobacco, seems to have wandered far from the Spanish *canastra* (basket). The peanut is quite unrecognizable; but it was discovered by the Spanish, and is still called in South America *maní* (its Quíchua name), and on this continent *cacahuate*, a corrupted Aztec word. In its old home it had a dignity we do not give it, being converted into flour as well as into the delicious drink *chicha*; and I have exhumed it,

unharméd, in the laps of Peruvian mummies of great antiquity.

The géographer has to deal not only with tens of thousands of Spanish proper names, but with a great many generic ones as well. 'Savannah' (from *sábana*, a sheet), 'sierra,' 'cordillera,' 'cañon' (can-yohn'; literally, a cannon or gun-barrel); 'cañada' (can-yah'-da, a narrow valley, but not cliff-walled like a cañon); 'mesa' (may'-sa), a tableland; 'pampa' (from the Quíchua *bamba*), one of the lofty plains of South America; 'arroyo' (a ravine); 'lagoon' (from *laguna*); 'barranca,' a bluff; 'llano' (l'yah'-no, a desert plain); 'ciénaga' (see-eh'-nah-gah, a wet meadow) — these are a few of the Spanish words he must have at his tongue's end.

As for the naturalist, he needs a vocabulary of several thousand Spanish words — mostly adapted from the Indian — to cover the fauna of the Americas; and the botanist, for the flora, about as many more. The ethnologist is similarly indebted for the great majority of his Indian tribe-names. Apache, Comanche, Pueblo, Navajo, Yuma, Papago, Ute, Mescalero, and hundreds of others are direct from the Spanish.

California especially is cluttered with what we might call 'real estate Spanish' names; very rarely of legitimate birth, and frequently ridiculous as the hosts of 'Mission-architecture' houses of plaster on lath. (I even knew one with a four-inch veneer of tiny cobblestones over a lath frame!)

The trouble is that the 'realtor,' whom one wag has derived from the Spanish *real* (royal) *toro* (bull), thinks in English and gets his notion put into Spanish words without any consciousness of the Spanish idiom

— which is, as a rule, entirely unlike ours. And sometimes it is merely ignorance of Spanish spelling that ails, as in the most flagrant case of La Jolla, an indescribably beautiful bit of the Pacific seacoast a little north of San Diego. It is a jewel, and that is what its founders meant to call it. But in Spanish 'The Jewel' is *La Joya*. Yet the inhabitants of this 'Jewel Town' are still stupid enough, after more than thirty years of derision, to stick to the ignorance of the real estate men who sold the first lots.

Many Spanish words of Spanish derivations from Indian tongues have become current with ethnologists and well-read people the world over. Such are *cacique* (ca-see'-kay), a word which originated in Santo Domingo, and became naturalized in every tribe of Indians between Colorado and Bolivia; *estufa*, Spanish for stove, but now universally adapted for the sacred man-house (Kiva) of the aborigine; *cachina*, one special dance of one special tribe, now generally applied to all Indian ceremonial dances; *temescal*, the Aztec medicinal sweat-house or primitive Turkish bath — and many more.

Equally familiar are 'siesta' (shortened from *sesta hora*, the sixth hour, noon), the midday rest; 'mantilla' and 'rebozo,' head-draperies; 'poncho,' that blessed South-American invention of a blanket with a hole in the center for the head, a pattern followed in Navajo blankets of the very highest order; the charming dances of the 'fandango,' 'bolero,' 'cachucha,' 'chica,' and the like.

The familiar 'chinch-bug' is merely a descendant of the Spanish *chinche*; and the 'New Jersey Eagle' is of clean Spanish blood — *mosquito*, 'a little fly,' diminutive of *mosca*. Among epicures the 'pompano,'

'bonito,' 'barracuda,' are sample reminders that the Spaniards also knew a good fish when they saw it.

'Tapioca' is from the Brazilian *tipioca*; and 'cassava,' its source, is from a Spanish word. 'Manioc' is similarly descended. Even 'coffee' — Heaven's next-last, next-best gift to man — is from *café*, and that from the Arabic *qahwe*. Of other Spanish kitchen names, well known in the West, may be mentioned *chile* (the red pepper), *tamal*, *frijoles* (the precious brown beans), *atole* (a most nourishing gruel of popcorn meal), *tortilla* (the unleavened bread), and so on.

When my own son referred to a cur dog as a 'pooch,' I asked where he got 'such rotten slang.' He had no idea, except that 'all the boys' said it. I don't like it yet — but it is more tolerable since it has dawned on me that this is another monstrosity acquired through our military contacts with the Spanish-speaking people. It sounds Dutch, or almost anything in the world except Spanish; but it is from the Spanish form of a word in one of the Indian dialects in Sonora, Mexico: *Pochi* (literally, short, or bob-tailed; then specifically, a bob-tailed cur).

The missionary about to tempt the South-Sea Islanders might perhaps be comforted to remember that 'cannibals' are nothing worse than a corruption of the Spanish *Caribes* (cah-ree'-bes) or Caribs, who gave their name to the Caribbean Sea. The spinster owes both her canary and its name (if she will trace the debt back) to the Spaniards, though with them *canario* is now hardly so fond a term as she might expect. As for her 'porcelain,' that comes the same way, its original being *porcelana*, which in turn is from

puerco (pig) — the porcelain shell having a shape-resemblance to a porker's back.

Acequia (ah-say'-kee-ah), the irrigating ditch which is the life of the Southwest, is Spanish by name and custom. 'Ranch' is from *ráncho*; 'ranchero' is derived unchanged; 'rancheree' (an Indian village) is a corruption of *ranchería*. 'Corral,' 'peon,' 'rodeo,' 'hacienda,' 'major-domo,' 'látigo,' 'sombrero,' are all direct Spanish-Americans. So is 'vaquero' (of which cowboy is a mere offshot). 'Loco-weed' is from *loco* (crazy). 'Cinch' comes from *cincha*. The cowboy's leathern 'chaps' are short for *chaparrejos*; and his word 'cavvyard' (horse-herd) is a still more remarkable liberty taken with *caballada*.

One might follow indefinitely so pleasant by-paths; but *basta!* Perhaps I have said enough to give to thoughtful people a little stir of sentiment at realizing how the gray old land which found and tamed the New World, and wrote its autograph across it in the history of four hundred years, has not only given us the world's finest chapters of romance, and directly connected with American history; but that it is not a past tense so far as our daily life is concerned; and that we are its debtors for the enrichment of our language every day that we open our mouths.

VIII

WHEN THE STONES COME TO LIFE

I

FOREWORD

PERHAPS it would be fairer to say, 'When the Stones Come *Back* to Life,' for to primitive man they always did live.

They were his first shrines (along with trees and springs); his first oracles and gods; his first token of life longer than his own—his first dim guess at immortality. It was thousands of years, even in our own accepted records, after he had given the stone his proxy, before you will find a hint of the idea of immortality for himself, even in the most marvelous collection of folklore, human nature, and the growth of hope that was ever printed.

Genesis does not get halfway through its second chapter before the stones begin to loom up amid all the wonders of a new creation. It is startling to find in the Book that Jacob set up his stone pillow (after the memorable dream and the famous ladder) in the style of a pagan pillar, anointed its head with oil in good old pagan fashion, and made there the first rude temple of which we have record accessible in every home. 'And he called its name Beth-el, the house of God.'

For that matter, the first Bunker Hill Monument, or any memorial of victory that we know of, was when Samuel raised his Ebenezer — 'The Stone of the Help' — near unto Mizpeh, after divine reënforcements had aided him to chase the Philistines off the landscape of Israel forever.

Stones have been the houses of gods from long before Jacob even unto this day, and sometimes have even been gods themselves; and the old mythology follows us throughout civilization. The very church-spire is 'after' the standing stones. The hearth-stone is at the beginning of our life; the grave-stone at the end. The corner-stone is 'the head of the building' — its very memory. The key-stone is master of the arch — the most important principle discovered in architecture since primitive days.

Altars were always made of stone till man began to count the cost. The world's noblest ideals of love, beauty, wisdom, majesty, and power are saved in stone. The feet of civilization walk everywhere upon stone, or imitations of it. The world's architecture, the world's monuments, temples, landmarks, business places, are stone. Its defenses were always stone; until we learned of late that a better fort against modern cannon can be made of stone already disintegrated. All the world's metes and bounds are marked by stones. The mountains are stone which feed the valleys that feed us. Out of stone comes the coal that warms us — and even transports us up and down and around the world; the gold and silver that enable banks and commerce; the copper, tin, and iron that make big transportation and construction possible. Steamboats and railroads and bridges and all windows and eyeglasses are born of stone.

It is from time-digested stone that our trees, flowers, corn, wheat, apples, bananas, grass, draw their life; and our meat feeds on these. Why, we couldn't have an orange, a shave, a beefsteak, a dollar, a waffle — even a whiskey — if there were no stone. We couldn't tell how hot or cold it has to be to kill people off in Chicago unless we had squeezed its

mercury juice out of a red stone to make thermometers withal.

The world itself is on incalculable stone, with some moisture over considerable parts of it — moisture which is busily engaged in making more stone from the waste of the original.

So all life — human, animal, vegetal — is founded on that serene, old, unanswering creature which we stupidly make a synonym of deafness, stolidity, heartlessness, and lack of life.

This granddaddy of all the life that is or was or ever shall be, who boards us still and pays our bills, should have more filial respect from us. We 'study' some manifestations of natural history, now; birds, flowers, trees. All are lovely, but all are sons of the stone. And none of them are so inextricably linked with human history, art, worship, safety, comfort. Why, fire itself was first made by man from the impact of one stone with another; and is still made exclusively by means which could not exist if there were no stones.

One of the oldest recorded myths (Hesiod wrote it out for us twenty-six hundred years ago, and it was then ancient) recognizes the stone as ancestor of man. When Deucalion and Pyrrha landed from their little ark-for-two, after the Flood, there was no other human life left upon this drowned rat of a planet.

'One wish may ye have,' said Zeus, pitying the castaways.

And they said, 'Our one wish is for neighbors and friends.'

'Turn, then, *the bones of your mother*. They shall be your companions.'

So they ran about gathering up every stone they could lay hand to and threw them backward. And

those that Deucalion hurled rose yawning from the ground as bearded men; and those from Pyrrha's hand were women. And the earth was peopled.

Incidentally, Deucalion was the son of Prometheus, the inventor of fire; so here are the stone and spark again.

Curiously enough, too, the Pueblo and Navajo Indians of New Mexico and Arizona have a parallel and purely aboriginal myth of the spawning of mankind from stones tossed by demigods. Well, that's at least as good as monkeys!

There is, even unto this sophisticated day, an unconscious reverence in all of us for stone, of which we shall get not only more understanding, but more joy if we will 'humanize' them as the Hebrews, Chaldeans, Egyptians, Greeks, Indians, and all other unspoiled peoples did; if we can see how much part they are, always were, and always must be, in our life.

'If they could only tell their story!' we often sigh, in presence of historic stones.

But they can! Even as the mossy boulder told Theseus and armed him for life and immortality — *when* he was strong enough to pry out what was beneath it.

The stones *are* coming to life now — the fundaments and the memorials of man, his hopes and fears and growth, whether in rock or any of its offspring. Thanks to the scientific resurrection, the beauty of the study of humanity is becoming understood and welcomed.

We no longer disprize the things behind us, nor would 'forget the pit we were digged from and the rock of which we are hewn.' We are waking to the fact that to the impulse behind us — the innumer-

able push of man upon the ages — is due our present momentum. We begin to 'humanize' history and the sciences of man.

Science is itself to blame that it meets a pious yawn whenever it enters a door of live human life to-day; that Society softly side-steps it; and the American business man and the hand-hardened farmer (who between them run this country, 'as she is run'), discount its note ninety-nine per cent on presentation. We know by superstitious hearsay that we must 'respect' these coat-tailed jugglers with big words; these mumbling shamans who couldn't climb a saw-horse; but they put us to sleep; we wouldn't encharge them with our chicken-yards — much less with the conduct of some serious business.

Whether its incantations be (according as is the voice of the high priest) in basso-profundo Greek or in falsetto newspaperese, of hushed and awesome brows or by the loud chromo grin of the Sunday Supplement, with robes of black or of motley — it is always Cagliostro. It is always cabalistic; something we poor folks must have, but can't get without superior intervention. We couldn't understand, unless we had particular Them for interpreter!

Its family name is Mystery. It writes medicine and law and science in Latin or Greek, lest we find out that we pay high for a prescription of 'Zii sal sodium' and still more extravagantly for one on the history of man. It holds a copyright on the first, last, and highest need and glory of humanity. From cradle to grave it stands between us and every right and privilege essential to life; we cannot be born, love, learn, or die without license of it — 'at so much per.' And it is worth the money — *if* we get the goods. We don't mind paying our various medicine-men, 'gin they

make 'good medicine.' But presently we shall revert to the primitive fashion: dead patient, dead medicine-man.

Now in the first, simplest, most beautiful, and most indispensable of all human studies — the study of man — we have too long been paying five dollars to the doctor and one dollar to the druggist for a pinch of common salt in Attic guise. Let them teach us the everyday of radium and Roentgen rays, and other things for which we are glad to pay specialists; but the salt-shaker and the H_2O we can handle by ourselves.

It is in this spirit — the humility of common-sense and the confidence of that same — that we must come into the presence of Science. It's not our tyrant, but our servant; our playmate, and not our Squeers.

Science means knowing. Knowing *what*? Incantations, formulæ, abracadabras? Not on your life! It is knowing how to live!

There are many grades of knowledge. But *any* knowing that is not for the enriching of daily humanity, that cannot be seasoned to our common palate and made assimilable to the marrow of our plebeian bones — that isn't Science, it's Shamanism.

Why must we have always (in his special shamanry) lost civilizations, hidden cities, buried treasures (always gold or emerald), giants, dwarfs, enormities, prodigies — and the other fairy-tales for the ever-youthful mind, and all the hocus-pocus of the medicine-man and the delight-maker, the *kóshare*?

Primitive man was just as unmysterious as we are. No 'civilization' is 'lost,' though many high culture stages have slipped behind the careless curtain of our forgetfulness, which we must draw aside to recover

them. No child is lost race or Sphinx; though, God knows, it too often is mystery to them that should have kept its simple key. It's just the same everyday wonder-flower of humanity that even you and I were until we were cross-pollenized with the thick-crowding weeds of mature civilization. It's natural. So was the race, when young.

I know most people don't think so; but I have never known the most callous or the dumbest to fail to wake up when they came face to face with what archæology really *is*. Within ten years, humanized archæology will be taught in every public school. Do you realize that this is nearly so already? The instruction in weaving, basketry, clay-modeling, and pottery, art, architecture, and all that — it's archæology. And the more the science is made human, the more it will take its basic place in our schools and in our lives.

In spite of Mr. S., the evil that men do is mostly interréd with their bones; the good — their little progression — lives after them, and is the sole reason that the race persists to-day. When we remember that the world's great architecture, its great sculpture, its great religions, its great literature — all are from archæology; that Venus and the Parthenon and Homer and the Bible are mere types of our debt to the past; that society and politics to-day are based exclusively on that human nature which was already old when Job catalogued the genus friend, and Solomon (as a qualified expert) wrote the dearest of love-songs and the pithiest of paragraphs, and John, the gentlest of biographies — nay, crystallized even when Adam and the other monster first met their natural enemy — why, we shall not be so scared of learning also from other men that are quite dead.

The time must come when we shall realize that 'archæology' is not a horrid Greek word to put us to nightmare sleep, but just our own baby-pictures saved for us, and the first little letters we 'printed' to Gran'ma, with pudgy fists and serious brows; and the resurrected pinafores we were glad in; and in which we had our tribulations and toe-stubbings in getting adjusted to an easier world. We 'don't have to' lose all the fun of having been racially young, just because a few medicine-men, who have practiced some jawbreakers like 'archæological,' pretend that the rest of us, who were also born of woman, must leave the joy and beauty of it all to be *their* monopoly, must surrender to them the very juice of our family tree. And when we realize that homely proportion of truth, we shall have done more for Science than all its esoteric misers-of-secrets ever did.

David Starr Jordan's serene but biting criticism of neo-scientific methods, in his address as retiring President of the American Association for the Advancement of Science, merits reading. He deals with just the reverse curve of our educational vices — the *over-modernizing*, the sub-letting, the impersonalizing; the denaturing of great teachers by depriving them of a chance to teach any one except a corps of pallid assistants, who must hold their tallow dips to the world, while the master, instead of being a beacon on the hilltop, is hidden under the bushel of 'administration.' Fancy Agassiz or Darwin as executive head of a ten-million-dollar university! We are in eternal luck to have saved, from such eclipse, two of the great, clear, unwavering lamps that light man's path.

Such teachers to-day would find it difficult — such teachers do, if they ever happen — to refrain from

being devoured by corporate, commercialized, endowed, over-harnessed 'education.' The five-thousand-pupil university will 'want' them; what show for the forty real scholars (and potential heirs) who would 'walk with Henslow'?

Yet from Dr. Jordan's pole to ours is not too long a way. We meet just at the middle of the world. He protests against the dehumanizing of the great scientist by making him mere head of a huge machine. We protest against the dehumanizing of a great science by hiding it from humanity. He prophesies no hope of abolishing endowments, over-equipment, the abuses of too-easy 'learning.' But he would surely agree that in *our* case the cure is simple and safe — just put a thumb on the mysterious quacks, and fling back the curtains so that the mother of sciences shall stand out free in the light to the eyes of men.

There is no curtained mediumism in the School of American Research. On the contrary, there is not a power-man of Wall Street, nor leader-lady of Newport, nor man with the hoe anywhere, who would not feel at home — maybe for the first time (in a literal sense) in many years — in the face of that institution, whether in Guatemala or Utah or New Mexico or Colorado. They would find an utter absence of pretense, of the esoteric, of the 'wiser-than-thou.' They would find heartiness, culture, humanity — and all set to solving the universal riddle, the problem of wider appeal than any other in the world.

They would find how jolly it is to absorb the foremost study amid the handsomest scenes, in company with young veterans who know more of the science than a Cambridge brahmin, and can leave many a college athlete fainted on the trail; men who can run

a camp, a pack-train, or an excavation as well as General Crook's chief-of-scouts; and as close to the precisions as the world's best classicist in Crete or Cyrene or Pompeii, and with a threefold economy of time and labor.

I have said 'humanizing,' but it would also be true to say 'Americanizing': for just as America has humanized the world in politics, in scholarship, in society, even in religion, so we are vitalizing the most important science of man.

Mr. Pope was quite right — but the 'Proper Study of Mankind' is *not* how much better we are than the next fellow (which we know by divine right, *until* we study), but how much *he* can teach *us*; how much sense, how much fun; how his lack of telephone and pink teas and suffragettes and Reno was partially offset by knowing 'where he was at'; by making his own art instead of spending his substance on dealers; by feeding his own, instead of orphans' home babies; by electing his own, rather than the 'slate's' *cacique*; by having faith more than churches; by being fit to run his own little world without wet-nurse or grocer, butcher, baker, or trolley.

It is very beautiful to see how competent man *used* to be. He didn't need stores, transit, factories, politicians, women's clubs, tailors, nor even whiskey. He could take care not only of himself but of his own. He was the whole human department store — instead of a poor little worried customer elbowing from aisle to aisle and asking the floor-walker at every corner.

We can't live to-day as he did. We haven't the nerve. But we *can* better our lives by understanding how he did live — how free, how happy, how religious, how artistic he was — and what a handy man to have around the house!

So from amid all the infinite romances of man, I have picked a few types from our own side of the world — the side we least know of. Some are writ in stone and some in bone and some in yellowing parchment; but all are human. And reading the record of the stones made man, we may presently win back to as useful respect for our ancestry as the savage had ten thousand years ago, as willing lessons from the past, wherein, and if so —

‘By the favor of God we may know as much
As our Father Adam knew.’

II

THE SECRET OF THE JUNGLE

Resting from the tropic sun of our clearing, by the flukes of a titan mahogany, it all came back to me.

You can’t re-flesh the clammy bones of a Maya ruin while it is buried in a Guatemalan Jungle. It passes imagination to figure human life into this vegetal labyrinth, more fearsome and more lonely than the stark deserts that Coronado plodded in his winning of the Southwest in 1540, or the uncharted seas on which Columbus ploughed the first furrow to the New World — this green smother where you must earn every step with the *machete*.

It seems as unhuman, as impossible, as the closet scientists, so long as they had their little way, made the study of man. One could chop a pace at a time, and find the strange glyph obelisks (or some of them) in their grave of vegetation. But to relate all this to a hive of humanity where men and women lived and loved and labored — you couldn’t think it: nor make it thinkable to the babes and women and men of to-day.

But now our black Carib axe-men had swamped that incomparable sea of trees that had swallowed the bones of Quiriguá from the sunlight of fifteen hundred years; we had burned off the twenty acres of giant trash; and the killing sun already crisped the immemorial moss on the monuments of the ancient Sacred City of the Mayas — and now it began to be conceivable.¹

It was as if one had cofferdammed the ocean and bared its floor where the ribs of the Spanish Armada moulder; or in a season rolled back the scroll of sand that is the *last* Epistle to the Corinthians, and restored to view, as plain as Paul knew them, the market-place and the 'Temple to the Unknown God.'

Day by day, as the Jungle came thundering down, we tried to dream back the people upon whose ashes it had grown; to visualize the building of the half-million tons of pyramids, temples, monuments; to think life into those vast vestiges of it, and love into these its unperishing autographs.

But that all-devouring forestation, that crushing obsession of the Jungle whose colossal logs now lay as wheat lies behind the reaper, whose terrible great roots still clutched whole pyramids as a tarantula clasps a fly — it was still a graveyard rather than the pressed flower, the old love-letter, the lock of a mother's hair, that antiquity really is when you but know it.

You do not lie down in the Jungle. You rest on your hind legs — lest the *garapatos* and other cordial

¹ This work in Guatemala was subsidized with \$2500 a year from the St. Louis Society, Archæological Institute of America, and a like sum from the United Fruit Company, whose vital head, Minor C. Keith, was one of the rarest of curios — a really intelligent business man.

tenants take lodging within your hide and cost you a leg or so for hospital repairs. No, you stand, and scratch, and swelter. The monkeys hustle in their overhead world; the three-foot macaws sail gaudy in pairs, but with voices that sound like Reno; a thousand parroquets rehearse their 'old saws' in the process of filing; the big *ron-ron* beetle bumps your ear; a twelve-foot python slides by; and now and then a shy *oropendulo* splits the discord with his matchless trill, or you catch the grunt of a rooting peccary or the snarl of a jaguar (and one kept our Chinese Charlie imprisoned four hours in his cook-house, two hundred feet from the railroad). But there is nothing human of it, nor of the root-racked mounds, nor of the hoary obelisks.

On a sudden I noticed!

Fifteen feet above my head, the tree was eight feet through, in clear columnar majesty, but just there began the fluted buttresses — five of them — so characteristic of the giants of this Jungle, so necessary to trees whose 150-foot heads would make a grove apiece in New York or Tennessee. It *needs* a toe-hold in those tropic moulds to upbear a forest on one pillar! These fluted anchors, six inches thick, offset their vast mother pillar as the flukes of a whale stand off from its caudal stem. No curve in Nature is more perfect than their reversed arch; no symmetry of beast or tree more wonderful; no roundness of woman easier to the eye. And if you measured the tree at the ground, it would be a hundred feet in diameter!

Down one of these giant's causeways marched a strange procession: ten thousand tiny green banners, each like a lateen sail for shape and for the 'rake' of it; each about two and a quarter inches long and

at the base seven eighths of an inch wide. Each was borne over the shoulder of a black ant, himself not over half an inch long; his spread of sail about eighteen times his own 'displacement.' No drill corps could carry its bayoneted guns more precisely at 'shoulder arms,' nor maintain better the distance (about four inches) in file.

But this was not all. Back up that dizzy causeway twinkled an equal procession of 'empties,' as spaced, as orderly, as sure — another ten thousand little black ants in single file, climbing to the sky for *their* green pennons. I couldn't shin that Bunker Hill of a tree nor one of its score of dangling *bejuco* ropes; but those ants had to climb at least one hundred and twenty-five feet to find a leaf.

I followed their Lilliput of a Birnam Wood, even till it came to its Dunsinane — three hundred feet by pace to the top of the northwest pyramid, the file unbroken to the very hole it poured into, and back out of, like an endless chain; and got respectfully aside to figure (for these *guerreadores* not only merit their undisputed way; they bite if they don't get it; nay, they will kill a goodly snake if he interrupts a procession). In terms reduced to our own petty proportion of capacity, each of these thirty thousand ants had walked fourteen miles from home, over cottages and skyscrapers; had shinned up the outside of thirty-six Washington Monuments topping one another; had gnawed off a three-hundred-pound burden apiece, and brought it down the three miles perpendicular, across the fourteen-mile hurdles, and down a mile or so into the bowels of the earth, to lay it sardine-wise in the treasury.

It all took — so nearly as a mere man's second-hand could tick it, and a mere man discriminate

the ascending and descending host — it took about eighty minutes for that wonderful round trip; and then they were at it till full sunset. That is, some six round trips a day. Or, as if I had traveled two hundred and ten miles a day and carried three hundred pounds halfway!

And their discipline and reasoning and engineering, when a careless twig befalls their beaten way!

But this was not meant to be of six-legged ants alone.

Quiriguá is the noblest Maya ruin in Guatemala. Copán (in Honduras) and Palenque (in Chiapas) are its peers. Chichen-Itza (in Yucatan) is its only better in America; and in all the world, Chichen-Itza stands second only to Karnak, 'when old Thebes was in its glory.' So it has a rather respectable rank in Art — though its antiquity goes back only to about the decline of the Roman Empire. Nero may have been fiddling still while Rome and the first clearing of this Jungle were ablaze; or Constantine gilding the face of Art when the glyphs of Quiriguá were being struck from sea-compacted volcanic breccia.

Fifty-eight miles inland from the shallow Atlantic harbor of Puerto Barrios, and almost a hundred feet higher, in that splendid valley of the Motagua, the Central American Euphrates, the Mayas made their Mecca.

They were lowlanders ever, and left the high plateaus to Cacchiquel and Quiché and Zutuhil and other tribes that did *not* build monuments. It is curious that in Central America the art of sculpture was of the seaboard thickets, while in Peru and Bolivia it grew only on the bald plateaus of perilous



STELA E AT QUIRIGUÁ

altitude. In Guatemala and Honduras and Yucatan it is obelisks and stone temples up to five hundred feet above the sea, always in the woods, and adobe construction in all the 'upstairs' of the most mountainous region in America north of Panama — as Guatemala is. In the land of the Incas and the Yuncas, the Aymará and Quíchua, the coast is desert, and its vast ruins are of adobe; only on the 13,000-foot steppes of the Andes do you come upon the carved stone giants of Tiahuanaco and the cyclopean masonries of Cuzco.

Maya-like, then, the Quiriguéños picked for home, not an easy bald spot on the great thorny Plain of Zacapa, which they crossed when they came from their first temples of Copán; nor on the rocky knobs of Gualán; but in the heart of the noblest Jungle in the world.

They evidently cared more for trees than for the line of least resistance. Imagine these inconsiderable savages gnawing down a forest of ten-foot trunks, where our heavy mahogany-axes and fifty steel *machetes* toiled three months to let in again the forgotten sun! The very baring of their town-site was comparable to the task of the Egyptian pyramids, for all their tools of stone and fire and bronze.

Please note that I say 'and bronze'! The shamans say 'No.' But not being one (thank God), it is my two-fisted privilege to remark that no man who has ever dealt with stubborn stone in person, or really followed in the field the ultimate potentialities of pecking and rubbing with stone implements, could for a moment credit that this insuperable forest was worried to bits, nor these great obelisks chiseled so fair in their ten-inch *rilievo*, without an edge that would really C-U-T instead of pecking!

High sculpture means metal — and man never tried it until he had found the wherewithal. He could do marvels with a flint to pick and a sandstone to scrub, but he knew, better than any arm-chair scientist, 'what can be did'; and when he made monoliths in Bolivia, or carved amethysts in Peru, and glyphs that girdle the waist of the New World, it was because he had something better than a stone to shave stone — even as he went himself a-whiskered until he devised metal tweezers to pluck by one and one the hairs that forested his face. As sane to believe that neolithic man barbered himself with the obsidian knife (good enough to scalp or sacrifice the other fellow, who *had* to endure its slow sawing) as that this primitive man was fool enough even to *try* to outdo the arts that hinge on metal alone!

The closet theorists say 'no bronze,' because we don't find bronze manicure sets (nor any other) in these ruins. Sho! Neither do we find last week's bananas!

Even in arid Peru and Bolivia, the bronze implements are wasted almost to a green shadow, as the silver ornaments are little more than a streak of blue. In the Guatemalan Jungle, where the rainfall is to the depth of ten wet feet a year, bronze would not have left, after fifteen hundred years, so much as a green stain upon the soil. The vital question is not what we find, long after it is possible to find it, but what *they* had to find before they could possibly do what they obviously did. Reckon they split out with stone arrowheads an eighty-ton monolith forty feet long?

Here's where the process of 'humanizing science,' of injecting 'horse-sense' and frontier experience into the anæmic guesswork which has so long usurped a

noble word and scared off every man, woman, and child of human intelligence and red blood (them that ought to be the very corner-stone of the scholar) — that's just where it begins.

The prairie-fire that swept all northern Europe with the fervor of the Crusades was more spectacular but not more God-fearing than the spirit that builded Quiriguá. No one since has been so religious as primitive man. Even as the girl of northern Europe consecrates her love to God, in the supreme surrender, so the Indian sacrifices to 'Those Above' the first fruits of whatsoever pleasure — even to the smoking of a cigarette!

And the people of Quiriguá builded literally 'for God's sake.' Their ceremonial structures cover about twenty acres, which is what we had to clear off. It also included, by careful measurement, some five million, three hundred and fifty thousand cubic feet (or nearly a quarter of a million tons) of 'made-work.'

This, you understand, was purely for religious motives. Their own homes were mere *chosis* of bamboo and manaca, which perished to mould in ten years at most. The only clue we have to the population of Quiriguá is in the amount of work they did for their gods in a reasonably fixed time: that is, about five thousand workers for about seventy years. Not a trace of a habitation has been — or probably ever can be — found. The homes of the worshipers are swallowed in the rich humus that has grown the Jungle which has tried to devour even the stone work of their temples — and has come near to succeeding.

In the finest part of the finest woods that man ever

tamed, the wonder-Jungle that forested the Atlantic (and therefore wetter) side of the three Americas, the Mayas built their stone memorials of reverence, their thatched cottages for home. It is the second Maya city in time (Copán is less than a century older; the ruins of Yucatan about a millennium younger), and the first to be faithfully discovered to the world. (We here at Quiriguá worked as 'business,' as if we were building a skyscraper or running a department store. No American contractor or engineer but would respect the methods here employed in 'mere science.'¹)

These First Americans were even smarter than we could hope to be in proportion to their tools. First, they *bit* out of the virgin forest a church site of twenty acres — that is, over 870,000 square feet of woodland one hundred and fifty feet deep. Then they built their homes in the shade of the edge of the clearing; 'shacks' say thirty by eighteen feet, lathed upon the sides with cracked bamboo, and thatched with the huge fronds of the manaca palm.

After this, they hunted stone for God, finding it three miles away on the north flanks of the valley of the Motagua and on the second bench, and laid a paved stone street from that to their 'quad.' They cleared the quarry as they had cleared the temple-site, and began to split off rocks in reckless single masses of forty to eighty tons — and then to transport them. The exact spot from which each of the greater monuments was quarried is identifiable, because of the peculiar cleavage — as sure as a Yale key. It will fit only one lock.

¹ A dean of American (i.e., United States) museums was driven out of Honduras for tinkering with Copán in a way to shame a smart pot-hunter, and for ruining a 'national monument' such as not even the Lacey Bill could find to preserve for us.

And now the parable of the ants.

Fancy a stone obelisk forty feet long and four by six otherwise, and weighing eighty tons, and many more of the same proportions, though not quite so huge — and all fetched three miles, across soft alluvium by a folk without railroads, derricks, cranes, windlasses, pulleys, or jack-screws.

What is next in the moving-picture of your own common-sense? Why, over a primitive tramway of stone, to keep this huge weight from sinking out of sight in the mud, the slow monolith trundled on rollers, cut from the younger Jungle; while thousands of sweaty barbarians tugged on the spliced ropes of *bejuco*, and hundreds of others, as besweated, laid the rollers under the advancing Juggernaut. Then, in the sacred clearing, and upon the appointed spot, they graved these great shafts with the unperishing record of their faith; rolling them up inclines of earth to an angle whence two or three thousand stout men could pull them to the perpendicular upon their prepared bases, where (save for three that have been knocked down by falling trees) they have stood ever since.

And even as with the six-legged ants, there was a return procession of 'empties.' While the women and children (for in the old days *every one* loved and helped) were bringing by the basketful the earthen core of the great pyramids, the men that didn't haul obelisks were carrying (probably on hand-barrows) the 50 x 20 x 20-inch dressed stones to 'face' these eminences against the torrential rains. No one man can lift these great terrace-stones. No two men of our American athletes could carry one twenty feet. They averaged about five hundred pounds each.

Probably there were six to eight men to the 'stretcher'; and it is a safe guess that they set their load down a good many times in the three miles.

That's merely transportation of material. Then conceive that tremendous sculpture, and the building — and meantime these people had to live; to harvest their wild bananas and corn, and hunt their meat, and cook, and eat and sleep and love. No telephone, butcher, and baker for them. Nor water at the faucet; they had to fetch it half a mile in buckets of the giant bamboo.

But somehow they builded their Holy City, whose temples and monuments filled the sacred clearing, and whose dwellings made a hive of all the circumjacent Jungle. They lived and loved and traded; they drank the Motagua and died of its fevers; they bit themselves with its striped mosquitoes, each of which is a free ticket to the plague; they gave to their gods and took from their neighbors, in the orthodox way. And all, in the long run, went to enrich a forest that was growing at least an inch a day, as our modern measurements have proved.

It is a long hark from the 'G-string' nudities of Palenque back to the early decorous deities of Quiriguá — where the lady-gods are even as 'the truly proper Queen of Spain'; also innocent of bosoming, though of mighty feet; and knowable from their consort monoliths chiefly by their lack of goatees and by the greater 'relief' given them. Their ceremonial dress and belongings are also different. But both are equal in the 'modesty' of exposing no more than face and hands to the action of the air and the reaction of the eye. The Maya genesis is

rather the reverse of ours; their Garden of Eden begins with elaborate costuming, and it takes a millennium to descend to the fig leaf.

These Jungle gods have as little of the Chinesque intricacy of the statues of Copán; they are just honest *rilievo* of two to twelve inches' depth. The sculpture of these great faces — the largest over twenty-seven inches high and twenty inches wide (and a head-dress seven feet and eight inches tall) — is as literal, probably, as the ancient vase portraitures of Peru. 'Probably' — for while the Maya stone gods do not resemble the present Maya remnant, as you do see the very urn-faces of a thousand years old walking the streets of Lima and Arequipa to-day, there is no other hint that *any* American aborigine ever passed from the literal culture stage of young Greece to the idealism of the classical Greek. Every evidence is to the contrary. Throughout the New World, sculpture, in terra-cotta or stone or metal, is either a type portrait of the race (often as true to profile and full face as the most specific anthropological double photographs of now) or a crude convention, or one of the Calvinistic grotesques that ancient man dreamed of his gods of wrath.

With possibly one exception, all the women figures face east and west (every monument has two faces), and all the men monoliths face north and south. There is not a lady north of the mid-line of the 2800-foot ruins, nor a male figure south thereof.

Nor is it strange. Nothing in primitive folklore is more persistent than the association of the points of the compass with colors, sex, and seasons; night and day, dark and light, cold and hot, earth and sky, male and female, winter and summer, snake and bird. The more we probe, the more we find the

superb unity of the American branch of the human race; and its universal sap of the original tree from which all our ancestors have once depended — whether by caudal, manual, or cervical attachment! So it would be still more surprising if we did *not* find, in these gray ruins of the time of the last Cæsars, just the same meridian lines that divide every New Mexican pueblo to-day.

In any event, these fourth-century faces are heroic in more than size; serene, resolute, wise, fine; perhaps it would not be too much to say (for the best of them) noble.

It is believable that the Mayas in their prime were better-looking than the present dregs of their almost vanished people. Possibly, too, the rulers had ‘more face’ than the peons.

What superior race whipped these doughty tamers of the Jungle and builders of mighty monuments, and drove them from their Holy City, and broke their spirit, and made them not only subject but degenerate, the mere whisper of their stout old selves? What sabered army, or what overpowering horde of barbarians? Not the Spaniards — for they came centuries after the downfall of Quiriguá. Not the Cacchiquel, nor any other of the nomad and warlike tribes of Guatemala, nor cannibal invaders from the Antilles.

It was a monstrous foe of their own bringing up — an innumerable host of midgets whose teeth they had dipped in poison!

It was the mosquito that depopulated this stalwart race, depopulated it and drove it from home, and made its survivors and their descendants puny creatures, worthless and doddering.

When Quiriguá was settled, the mosquitoes of the Motagua were just like any other mosquitoes — the same plaintive hum and pointed address. But as the swarming Quirigüenos lived on in their Jungle century after century, without sanitation of any sort, they festered the moist humus until the mosquitoes it bred were as venomous in proportion to their size as rattlesnakes. And we would hardly need say 'proportion'; for the bite of this tiny insect, envenomed by humanity, killed off the natives like flies, and blinded multitudes that they did not kill.

To this day, after all the centuries, the bite of a Quiriguá mosquito is something to be carefully shunned. Of our own expedition, all but one being seasoned Westerners, my eleven-year-old son was the only one that escaped the Jungle Fever altogether. Every one else suffered from it not only there, but recurrently for years. I think that I myself acquired but one bite; and it cost me a year and a half of total blindness.

In all our English vocabulary of four hundred thousand words, there is only one for Jungle — and we should write it with a 'cap.' It is not only an eminently 'proper name'; you are ready to count it a personal one when you make acquaintance of it. 'Thicket,' 'coppice,' all our English words are mere shrubby apologies; the Hindu *Jangal* has elbowed them all aside, throughout the world's speech, for *that* kind of an over-woods.

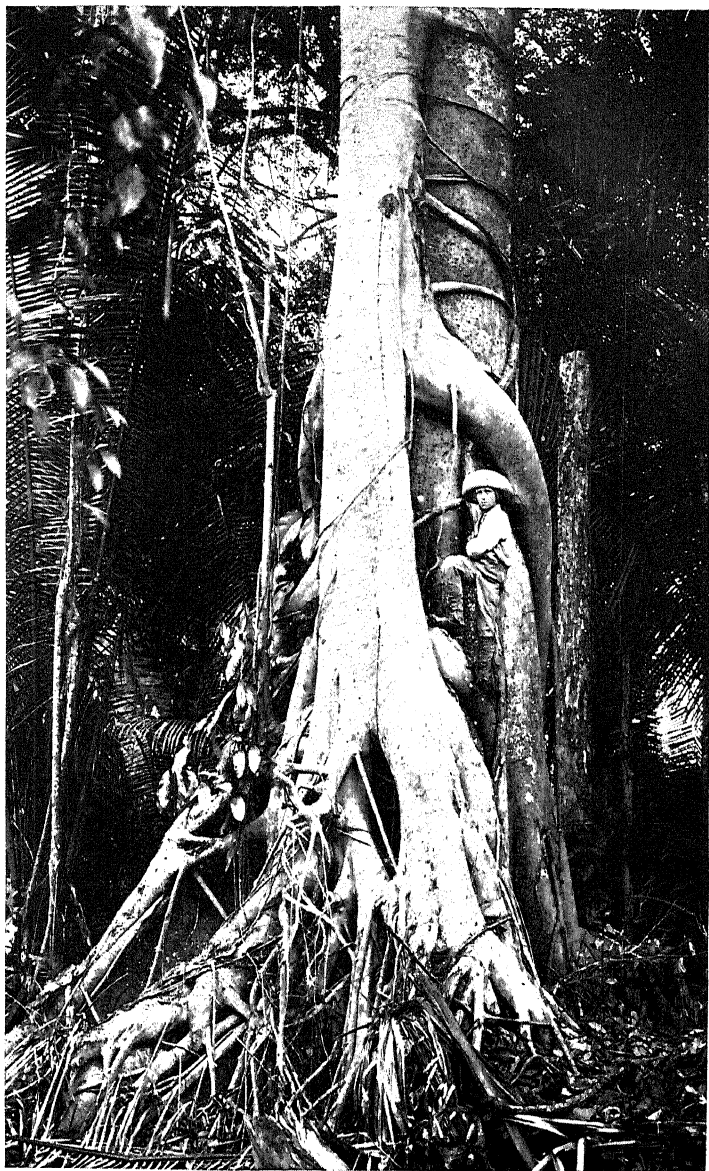
You ought to see that Guatemalan Jungle — and even our wrestle with it! Its average top is one hundred and fifty feet above the ground, and almost as level as a floor, though some tops stand forty feet higher. Its trees are not as the Big Trees of Cali-

fornia, but huger than you will see elsewhere. Its manaca palms (*attalea cohune*) arch to a chord of fifty feet and burn green like fireworks. Its bamboos, like inconceivable ferns, are up to eight inches thick and ninety feet tall, and drooped as only the bamboo can droop; and when you would drink in safety you tap this great stem and take its distilled draught through a small twig-pipe of the same. When fire befalls the Jungle, and the manacas roar up like musketry, the cannonade of these bamboos is like that of four-inch guns, as joint after joint explodes with the steam begotten of its water and the outer heat.

The monumental trees stand as close as they can tiptoe; and between them come the bamboos and palms, and between these — everything. In our California redwoods, the very shade kills off the underbrush as safe as civilization kills off children. But in the incomparable feracity of the tropics, every inch of soil has its vegetal child. If you climbed twenty feet up in the Jungle and dropped a pin — the chances are twenty to one that it wouldn't reach the ground. It costs nearly as much per year to keep a railroad from turning into a forest again as it did to make the grade and lay the rails in the first place. That's what 'Jungle' means!

The giant trees are mahogany (*caoba*), *ceiba*, Santa Maria, Palo Santo, breadnut, *conacaste*, cedar, and a dozen more, each with parasites to spare — from the tops, great trailing *bejuco* ropes from the caliber of a pencil to that of a cable; and all sorts of orchids, lovely and ugly, little and vast. In a tropic forest there are even more deadbeats than there are in a modern city!

And the *matapalos* — the 'tree-killers'! in all the vegetal world there is nothing remotely comparable



THE DEVIL-HUG OF A MATAPALO ON A STILL VIGOROUS
PALM TWO FEET IN DIAMETER

to this hugging parasite. A petty seed lodges far up some great confident tree, and wins the trust of its immediate sap; dropping tiny, lengthening air-roots till they find the earth and anchor in it, and sending up frail and girlish tendrils that hug the bark and seek the sun; the air-roots put out little twining fingers that turn quick to choking arms; and almost before you know it, the giant tree is literally throttled to death, and rots away. And the little seed it entertained and fed stands even-up in the forest of giants. The only difference is that it has no columnar trunk, but a colossal lattice of empty arms, clutching the hollow (sometimes ten feet in diameter and one hundred feet high) where was once the host that reared it. If Hugo had seen a *matapalo*, 'The Toilers of the Sea' would have had a deeper terror; and if you will put one of our photographs (for all its sunlight and the bright boy figure) beside Doré's ghastliest drawing, you will feel that he had something yet to learn about a devil-tree. And perhaps he is the only artist that ever suggested such a death-clutch (in any shape) as this strangle-hold of the *matapalo*.

For all that, it is a forest of matchless beauty. It is as vastly dense as the Amazonas, but not soggy nor sodden. The giant plumes of palm and bamboo everywhere mitigate its awfulness with grace. It was hard — even sentimentally — to cut it. And for Americans to burn up \$100,000 worth of mahogany, because it wasn't worth (there) even rolling to the Motagua, to make forty-foot dug-out canoes!

But we respected the Jungle; and it is part of our chief assets, almost as valuable as the antiquities it hems. Here is the first and only Archæological Park in the world.

From the United Fruit Company (sometimes invidiously called 'the Banana Trust'), the School of American Research has a concession of eighty acres. Twenty acres of this we have cleared with steel and fire, to bring the ruins of Quiriguá to light as they lived so long ago; and the remaining sixty acres are kept in virgin Jungle — as they, too, were then — a vast green frame around the noblest picture of man's old hopes and fears that there was in Central America.

Within a decade, this Jungle-frame will be famous the world over — for itself as well as for that picture it holds within. It will be last and longest-saved of the great American Jungles, the most beautiful and typical of tropic groves; saved flora and fauna; monkeys, parrots, parroquets, macaws. Not a gun allowed within eighty thousand acres!

There used to be plenty of Jungle in Central and South America — as Cortes knew in 1524, when he tramped from Mexico to Honduras. But banana and other trusts are not raising Jungles now; they are raising bananas, coffee, cacao. The forest goes; the *finca* comes. It takes four brushings a year — but no more mahoganies will grow where the tame banana or the coffee bush have once been set out. For instance, the United Fruit Company alone owns eighty-eight thousand acres of the Atlantic Coast of Guatemala, which is practically all its Jungle. Where the Jungle will grow, so will the banana; where one won't, neither can the other.

So, within ten years, wise travelers from the world over will be coming to see the restored bones of Quiriguá and the last of the great tropic forests anywhere reasonably accessible.

Given, such a forest to rehabilitate — to eat its core and protect the rest — and forty trifling peons ('poor brown trash' who might 'earn their salt' if it sold at \$3.27 per ton), and two jet-black Carib mahogany-cutters (one a Methodist and one a Catholic!), and four Western Americans. The rest is simple, though not easy. We built a good house — in about equal parts of lumber and mosquito screens — on the second bench, above the worst fevers, and next the Guatemala Northern Railroad, about three miles from the ruins. A gasoline car and the banana-tracks were the hyphen. Up at 4.30 A.M., at the ruins at 5, labor till 11 — much of it to get the peons (rake-hellied by *contratistas* from every haunt of Guatemalan beach-combers) into some faint imitation of persons in motion — and then again the buzz-car, and the tinned lunch, and a little siesta with the mercury steady at 104 degrees; and the ruins over again till 4; and a long souse in the swift Motagua, and a fanning-dry as we snort up the track faster than any Guatemalan train ever ran; and China supper; and then notes, algebra, and the 'grind' on glyphs.

There used to be good men in Maine at the double-bitted devil-axe; and I used to know them. But they would be first to take off their hats to a master mahogany-cutter, whose trees are four times as thick through, and whose fifty-inch, straight-handled axe is the cleverest ever made by the tool-master hand of man.

Three slender poles are cut and trimmed and triangled around the fated tree, ten feet up, lashed in the crotches of three stout poles; and made taut with a fourth and a rope, even as the bucksaw of our

boyhood was tightened; and Martin and John, bare-foot, stand on this 'platform' or *babachu*, and grip the slender poles with prehensile toes and swing these back-hung axes. And the *shoulder* they put into the blow! Martin is 'bellying' on the side the tree must fall (and those two men can 'drive a stake' with one of these forest giants); and John hamstring on the upper side. Half an hour is sometimes enough for a tree eight feet through; and the stump is near as level as a table-top. And suddenly wise old Martin yells, 'She's talking!' A few more ringings of the alternate axes — and Martin and John leap to safety uphill. There is a strange groan, a swift swish of leaves, and then a fearful crash and tremor of the earth, and choking dust arises. I have known very respectable earthquakes of less noise and jar than when one of these trees of Quiriguá came down to its appointed bed.

But of course we trusted not even Martin when it came to cradling one of these Jungle-kings between two monuments fifty feet apart and worth half a million apiece in New York to-day — and five times that to the world's scholarship forever.

He never once failed to deliver a tree where he promised, after walking round it many times, shining its aërial ropes, and taking a mental arithmetic of the cubic contents of the tremendous head. But Jove nods — and Martin *might*. So every tree was 'monkeyed,' and guy-cables were attached, and forty pairs of stout arms ran with the pulleys, and each 500-ton tree came roaring down to its fixed inch. No other archæological work ever matched the precision of this. For not a monument was scratched in the felling of the impossible forest that had overgrown them all.



BY THE FLUKES OF A TITAN MAHOGANY

Then the *machete*, the axe, and the cross-cut saw. The ten-foot trunks were reduced to sections that forty men could roll with pry-bars; fire-roads, twenty-feet wide, were made around all the clearing, to protect the Jungle; and the clearing was divided into a dozen parks by equal fire-roads, lest the burning become so fierce as to jump across to the precious Jungle. Imagine cutting and piling and safeguarding a hundred acres of the finest forest you ever saw (for this twenty-acres is equivalent), so that no spark should touch a powder-magazine a block away — and you have our beginning.

Stephens, who wrote, and Catherwood, who drew, our first knowledge of Quiriguá, in 1840, both died of its fevers; and of our own expedition only two escaped reasonably, thanks to our tiresome precautions. The natives died off as they were flies; and of the imported Caucasians of the United Fruit Company there was a logical procession down to the hospital at Dartmouth, forty miles below us. The aborigines of Quiriguá must have rabbited fast, to keep even with the death-rate when there were no filters nor Panama tanks nor stifling mosquito bars!

The first two seasons of the School at Quiriguá went to establishment and clearing — and no other scientific expedition in America ever worked faster or more economically.

As for excavation, we barely began that in the last two weeks of the campaign of 1911. You can work in the Guatemalan Jungle from about January 15 to May 1 — if you don't mind the heat of the hinges, and the fevers, and the billion insects, and all that. From May to January, you *can't* work; for the simple reason that if you dug out a hole to bury a house in,

to-night's rains would have filled it by morning. This is no jest — pray remember a rainfall of one hundred and twenty inches in eight months, without which neither Mayas nor bananas could flourish.

But what we did dig was a wonder, and paved the way for 1912, which, after brushing the twenty-five feet of new-grown Jungle, was devoted to excavation. It's no whisk-broom excavation as in Greece and Crete and North Africa — 'brushing' dust *à la* Pullman porter is far unlike *brushing* a tropic growth with axe and *machete*. There are fortunes for the man who will invent a plant-killer for railroads in the tropics. Perhaps a foot deep of rock salt over our twenty acres would discourage further vegetation, even from the hundreds of miles of leviathan roots that choke the area. Fire won't.

The only other remedy is the omnivorous *machete* — that wonder-working cutlass which has tamed the tropics; that article of dress without which no modest peasant would any more appear in public than without his bifurcated unwhisperables; that combination axe, sword, hoe, spade, rake, pick, can-opener, plough, pocket-knife — and term of endearment when the 'white-eye' distilled from cane sugar moveth itself aright on pay-day.

The humus of the terrible Jungle has blanketed the bones of Quiriguá only a few feet — the rest has run away in the rains to give occupation to dredgers at Puerto Barrios. We find the pavements of stone only two or three feet from the surface in the great courts. From the pyramids it has, of course, largely washed down; and with the dry-out, now that they are denuded, the rains will scour them — even as the grass is now taking possession of the clearing

from which we gnawed down those stupendous trees and then 'brushed' and burned it twice over. Where have those grass-seeds been waiting, this fifteen hundred years, to rush in and 'jump the claim' of the hugest forest in America? God knows!

Only a couple of weeks were left for excavation in 1911. In this time we uncovered some of the lower walls and attacked the root-strangulation upon one pyramid. Even so soon, we made extraordinary finds at the so-called 'palace,' or monastery of the high priests. This noble structure, about 140 x 40 feet on its far larger terraced mound, had not only Yucatec-arched cells, and bands of chronological glyphs, but a feature till now unique — a frieze of gargoyled heads, about twice life-size, of the culture stage of early Greece, and with thirty-inch stems so that the whole head projected well beyond the flush of the wall. Three of these were soon dug from the débris to which the octopus roots of prying trees had spilled them.

Here already were three of the five date-glyphs to determine the relative age of this building.

The wonderful calendar of the Mayas — rather more logical than ours — is perfect, save for one thing. It gives first the 'introduction glyph'; like an initial letter, to say, 'Here's the date.' Then the cycle of four hundred years; then the *katun* of twenty years; then the year of that twenty; then the month of that year; then the day of that month; each in a stone by itself, consecutive and clear as a Hebrew text.

The only trouble in the whole system, for us, is that they have no 'Mutual' Year One. We can read absolutely how many days apart these obelisks were set on end; we can parallel them with Copán and Uxmál. But we have no common point of departure.

They knew no more of Christ or gunpowder or Columbus than we know when the first Maya began his almanac. We probably never shall know — unless by the bare possibility of some solar eclipse recorded by them and identifiable by us.

But we'll try; and the first thing will be a *corpus* of all these wonder-glyphs, to be published to the world in photo-simile, and to be digested by the world's students. Maybe a German pundit will solve it — mebbe a schoolboy. A unique bone flute in our Southwest Museum, in Los Angeles, made fools alike of archæologists and high musicians for a year. Not one could get it to 'talk.' And then a thirteen-year-old boy picked it up and played it 'at sight'! It was made of a woman's femur; perhaps a memento of his lady-love to the prehistoric giant musician in whose grave we found it on a California island.

The season of 1912 more than realized our fondest hopes. In the four months between the end of one Guatemalan deluge and the beginning of the next, we lost but little time in mowing the watery new growth with the *machete* — though it had sprouted twenty-five feet tall in eight months, and there were some trunks eight inches in diameter! The rest of the term went to expert digging through the maze of roots, and into the bowels of the pyramid of the 'palace.' And we brought to the light of day a noble 'temple' that neither stars nor man have seen in fifteen hundred years, that was not even dreamed to exist — the first great Central American building ever excavated.

To the School of American Research ¹ later gener-

¹ The invention and the achievements of the School are chiefly due to Edgar L. Hewett, the most extraordinary mental and physical vitality I have known — with one less quiet exception.

ations will look back as so many Americans now remember the school of the elder Agassiz at Penikese. Only, more and longer, for the simple reason that the field is incomparably larger and more human. It is already bigger in attendance — and the far older Classical Schools in Rome, Athens, and Jerusalem are not so active.

It is due to this institution (and to its head) that we are at last absorbing into our skulls the realization which the mumbo-jumboism of the closet scientist has kept us from so long — that this our America, this 'parvenu' among the lands of history, has antiquities as noble as Egypt or as Greece. This is a large word — but it is all *so*, and I stand by it or fall.

And it is time that Americans wakened to find whether it is so or not. If it is true that all the worthy art and architecture and the world are on the 'other side' — let's settle it, once for all.

For there are those that say 'No,' and have their documents. And one reason why the science of man gets next to so few of us is that it *is kept* so distant. But you and I and the women and all of us are man — as much as if we had heard Paul or carved the Victory. America is as good as Greece, if we may guess by population and relative intelligence in the test of time. It can't get along, wisely, without Greece — but neither can it get along without America!

III

THE WONDER OF THE CLIFF

It took twenty-five years of butting against the esoteric wall, by some of hard heads and hard fists, to dent it with the belief that we have antiquity in America — to convince, not school-children (with

whom these Americanists would have done better to begin), but the self-elected watch-dogs of what Americans shall be allowed to learn in the way of culture, that there is also somewhat to learn of it in America. The sacrifice of our virgins (and almost) to the Minotaur of European titles was much easier to become unpopular than the immolation of our intellectual chastity on the altar of snobbish Tradition — and, in a sense, far more pardonable. For the heiresses got a name, anyhow!

Now, only a fool unlighted would discredit the virtue of having the Victory added to our category of grace-in-plaster in every high school. We need every joy we can get of Greece or Rome. But, also, only a double-distilled (and sheep-skinned) ninny would hold that, if we could supplement classical culture with an American art and antiquity worthy to keep it company, that would not also be very well. And it has been far harder to convert educated Americans to the fact of American antiquity than to convert the 'rabble' to the idea that *all* education is worth while, and that the mistakes and successes of our predecessors, no matter how remote, may merit our understanding.

The Southwest of the United States has been known for two generations as one of the most valuable and interesting areas on earth for the study of man — his monuments, his architecture, his environment of the greatest natural scenery, and his present *modus*.

Nothing in Greece or Italy or Africa or Asia Minor surpasses the human interest of this region we have heard so much less about. It had no Bible and no New England Primer for 'publicity.' The old books about it are in Spanish; but they are America,

and of a century before the seasick Pilgrims landed. There is no thrill of science or art that they do not hold; and they have the joy of discovery. We all would like to see Rachel's particular pitcher — because we always knew she had one. But we would all like still better to find a New World — because nobody knows there is one.

More than forty years ago, Charles Eliot Norton (who made Ruskin a part of American life and taste) founded the Archæological Institute of America. It soon got away from him. It began with the greatest work, in that sort, ever done in America — that of Adolph Franz Bandelier — and it 'squandered' sixty dollars a month on him for a few years, and published his monographs, which are the foundation of all real study of the Southwestern Wonderland and worth more than all else the Archæological Institute ever did, and then it let him go!

Twenty-five years later, at the anniversary meeting, Norton, the Dean of the deans of our scientific bodies, electrified us by reminding us that the Institute was founded by him, not for archæology, not for inhumanities in Greek 'perspective' words, but '*to promote culture in America.*' Let me quote the official words of the American who will long stand as our foremost culture-scholar:

'The real object of the Archæological Institute is to strengthen the hands and hearts of those who hold to an America which shall be intellectually and morally not less great than she is materially. It may surprise some of you when I say that in the foundation of the Institute archæology was not directly its object, for we thought of it as an effort to resist the flood of vulgarity and barbaric luxury brought in by

the rapid and enormous increase of wealth then beginning to overwhelm the country. We viewed it as more than an undertaking to dig up buried cities and consider the conditions of prehistoric barbarians, for while of all races the Greeks attained to culture in the highest degree of all peoples, none ever needed culture as much as ours. We, therefore, laid the foundations of the Institute that it might contribute to the higher culture of the country.'

It was Professor Norton's joy that before his death he saw the beginning of the end. His son was put in charge of the chief of the classical explorations of the Institute; and the Navy Department sent a warship to protect his work in Cyrene, in northern Africa. But the life and soul of the elder Norton is now marching on also in Guatemala, New Mexico, Colorado, Utah, Arizona, and California, and is backed by the awakened public sentiment of Americans for America.

How heartened he was by the broadening — the Americanizing — of his paternal plan, his letters are competent evidence. Would that he might have lived to see his dream not only realized but multiplied in Central America and our Southwest, his academes allied with brawny doers of things! The natural result is that the Classical Schools in Rome, Athens, and Jerusalem are prospering better than ever before, and that the American School is doing more than any of them.

The School of American Research not only came to stay — it came to add new life to the Classical Schools. It came to add common-sense to culture, patriotism to scholarship. And both needed it!

Again the moss-grown notion of keeping the rest in ignorance — the policy of patent medicine learning — is hurt.

Even Science nowadays has to show cause, and be as business-like (i.e., as honest) as your grocer is compelled to be. Even as medicine must now perform outside the cabinet, and show you what it is doing, and why — so the man that asks you to contribute a thousand dollars to his exploration fund must first convince you that he knows a shovel from the hole it makes, and can descend from the Olympus of a lecture platform, pull off his own spike-tail, and 'run' a gang of diggers, seeing that they neither steal nor break the 'finds,' nor revolt against his commissary.

The more you give people a chance, the more they take it. We would all be interested if the soothsayers would really give us the bread for which we pay them, rather than their esoteric stone. And as the world is *not* 'mostly fools,' it will *like* to learn. It always likes to learn what is real. It isn't the dullard world it has been played for; but a very earnest, imaginative world, alert to discover and to understand.

It has been no mushroom growth of the men or the policies that lead American archæology to-day. Every inch has been won by the tireless training in books and field, and by years of dauntless fighting the reactionary politicians in Congress and in science — the latter being the more political and impervious.

It is only because the foundation in training and in policy was laid so broad and deep that so fair a superstructure could rise upon it so fast. But if it bewilders the old-line savant, who for a generation fiddled a big undertaking just because some reverent souls would support his dignified coat-tails, but on a

'gentleman's agreement' of Greek professors which would be laughed out of any court even if applied to a peanut stand, it does not surprise the business man. He merely reaches for his check-book and mildly remarks, 'Why didn't you say so before?'

The oak was planted in 1899; the acorn had had its due time. The Normal University at Las Vegas, New Mexico, had turned from a Territorial high school to a real workshop for scholars. A quiet young man, who talked seldom and rested not at all, had made the change. He had, then as now, that first quality of leadership: to pick lieutenants, kindle them, keep them aflame — and trust them. That was Edgar L. Hewett, now the best-equipped field archæologist in America, and probably the most vital force in education.

For backing he had the local sentiment he built; and also the late Frank Springer — the foremost American authority (if not the world's) on fossil crinoids, whose peerless collection adorns our National Museum, whose classification rules the British Museum; and just accidentally a foremost lawyer and President of the thirty thousand square mile (not acres, *miles*) Maxwell land grant.

With ten of the people he had inflamed — in student body and faculty — Hewett went out in 1899 and put spade to the prehistory of the Southwest. It was no amateur nor pot-hunter rifling.

In the old days of their first discovery, many of these ruins had been vandalized by pot-hunters in a way I suppose would be possible in no other country than America. Noble towers were thrown down to save the trouble of shoveling the dirt from their inner rooms, out of the windows, to find speci-

mens. Giant logs were dragged out of mighty walls to make firewood. About everything that vulgar greed could do was done in this Southwestern heritage of the American people.

You wouldn't believe what these my eyes used formerly to see — but you, too, can see it, all over the vast Southwest, in the trail of museums, universities, and even the Government itself. A touselled pueblo ruin, of maybe five hundred rooms on the ground plan; the other original five stories fallen in a mound thereon. And what do you guess these pot-hunting 'scientists' did? Why, they dug out the first room clear and pocketed its proceeds; and the débris of the second room they shoveled over into the first (for that was easier); and the trash of the third into the second, and so on. And when they had 'excavated' five hundred rooms, number 500 was the only one left clean, and all the rest were a mere ash-heap as they were found. But, the 'specimens' were in their museum — the potteries and other artifacts for which they had violated the grave of American Antiquity.

Do I say it hard? Go and look at every ruin such vandals have grave-robbed in Colorado, New Mexico, and Arizona; acquaint yourself with who did it. Then tell me if my language is not really chastened as a Westerner's should be — and sometimes is.

Then please go and view the antiquities we of the School have dared to deal with. Instead of a heap of rubbish, you will find every room honest to the sky, the ground-plan all revealed, the detritus moved off and away; and all as though these Ancients had come back themselves to put their old home in order for visitors to-day. Thanks to the Lacey Bill and

other intelligent legislation, to the awakening of public opinion, and to the influence of intelligent scientific bodies, an end has been brought to this infamous gophering, and most of these ruins are now national parks, fully protected.

Which would be the fairer way to treat *your* grave and the old homestead; fairer to you and to your grandsires, and fairer even to the visitors who may hope to learn a little from the way you played a man's part so long ago as the beginning of the twentieth century? Which would you and he more desire: a pile of ashes from which the 'guardians' have piously dug and stolen every heirloom — or the skeleton, at least, of your home, carefully preserved as by people who know respect from a gas-bill?

When the inside history of Western conservation comes to be written, it will be somewhat different from newspaper stories. Many men of many minds — and many sorts of fists — have planned and put to practice what is perhaps the most civilized thing this Government has ever done. That old lion, Major Powell, who learned the heart of the Southwest fifty years ago, was among the originators of the idea — and it is well that a rugged monument to *him* stands on the very rim of the Grand Cañon (which he 'immortalized'), the greatest piece of earth-structure that ever came from God's hand.

Self-preservation is the first law of nature; but conservation (which is self-preservation projected to posterity and to your neighbor) is the foremost and highest law of civilization.

The real father of conservation was that quiet veteran, the late Major John F. Lacey, who, as a member of Congress from the Sixth District of Iowa,

did more than any other man, both by his wisdom in framing laws and his diplomatic tirelessness in getting them through, for many phases of this great crusade. And if the various Lacey Acts and their results were suddenly cut from under our present economies, the surgical shock would astonish the whole body politic.

Only those who have gone through it can imagine the tediousness of a scientific campaign when the American Government is the party of the second part. The little boy who 'wished the Pacific Ocean was made of custard pie, and he was throwed into the middle of it and had to eat his way ashore,' could have his wish if red tape would serve him in place of custard.

One of the most astonishing correspondences I know of is that which records the attempts of the Southwest Society to conduct scientific explorations in the Southwest; beginning with the flat contemptuous refusal by the Interior Department to allow excavations on any public land, whether in its control or not. Being reminded that the Forest Reserve had gone to another department, and that anybody could dig their darndest on the non-reserved public domain, the Department contented itself by reaffirming its denial of permission as to the reservations in its power. It was only after the warm intervention of President Roosevelt that this barbaric ruling was set aside and that scientific expeditions were permitted in the Southwest; and only upon his still more strenuous refereeing the second year, that Boeotian regulations were set aside which had been invented to eviscerate the begrudged privilege.

To secure congressional action on bills of scientific purport is no less tiresome a process. We need not rehearse all the steps. They were many and long. To some of us they seemed tedious. We had to circumvent the circumlocution offices of Washington, Boston, New York; to secure governmental leeway and elbow-room; to establish scientific Peace, *à la* Grant; and to prove, here, there, and everywhere, that America is fit to be known to Americans.

But we *had* to win. If mere human beings were not plentiful enough to convince their Congressmen and Senators (and even their clergymen and Greek professors) that they '*wanted* some American in theirs' — it was time to know it and to quit. For the most futile (and frequent) shaman is he that 'does science for scientists only'; who forgets that his butcher should be interested as well as paid; who never apprehended the text of the greatest Anthropologist: 'I come to call, not the righteous, but sinners, to repentance.'

And at last, in 1908, the Archæological Institute of America (which had been de-Americanized since 1883) founded the School of American Archæology (which later became the School of American Research) on the same terms as the Classical Schools in Rome, Athens, and Jerusalem, which it had so long and so nobly mothered. And there was 'going to the bat.'

'We have no right under Indian treaties,' said Red Tape, 'to remove these antiquities; and if they are removed, they should be in Washington, for the benefit of the whole American public.'

'To Washington with Washington!' was the retort. 'Not ten per cent of the American public hope ever to see the National Capital. They oughtn't to

have to. If these American antiquities are to serve the American public, put them in museums in the centers of population from Bangor to Los Angeles. There are enough for all. Every college and museum could dig in the Southwest for a century, and then there would be some left. Just organize their digging — and make them dig fair and not *gopher*.'

And after Roosevelt had held a certain memorable semi-cabinet meeting, the retort won.

And now your children won't always have to go to Washington to see the antiquities of their own State. You will be permitted to get an exhibit of your own local history and prehistory into your State capital or the museum of your biggest city, or wherever else seems wisest.

A like campaign followed in New Mexico; and the then Territory, which Beveridge deemed 'too barbarous' for Statehood, was far easier for scholarship. The legislature gave us, for headquarters, the historic 'Palace of the Governors,' the most venerable public building in the United States, and money to put it in order, and five thousand dollars a year for maintenance; and established the Museum of New Mexico, all being kept in tune with the history of this great, gray adobe that was the seat of government of a million square miles of America long before the Rebels of Leyden thought what a fine corner-stone Plymouth Rock would be for their descendants.

But meantime the field — the only real reason of museums — was steadily tilled. For a season we toiled again on the Mesa of the Pu-yé, house-cleaning its tremendous communal pueblo on the top and its wild artificial caves in the face of the tall tufa cliff; and 'restoring' enough to show what it all used to

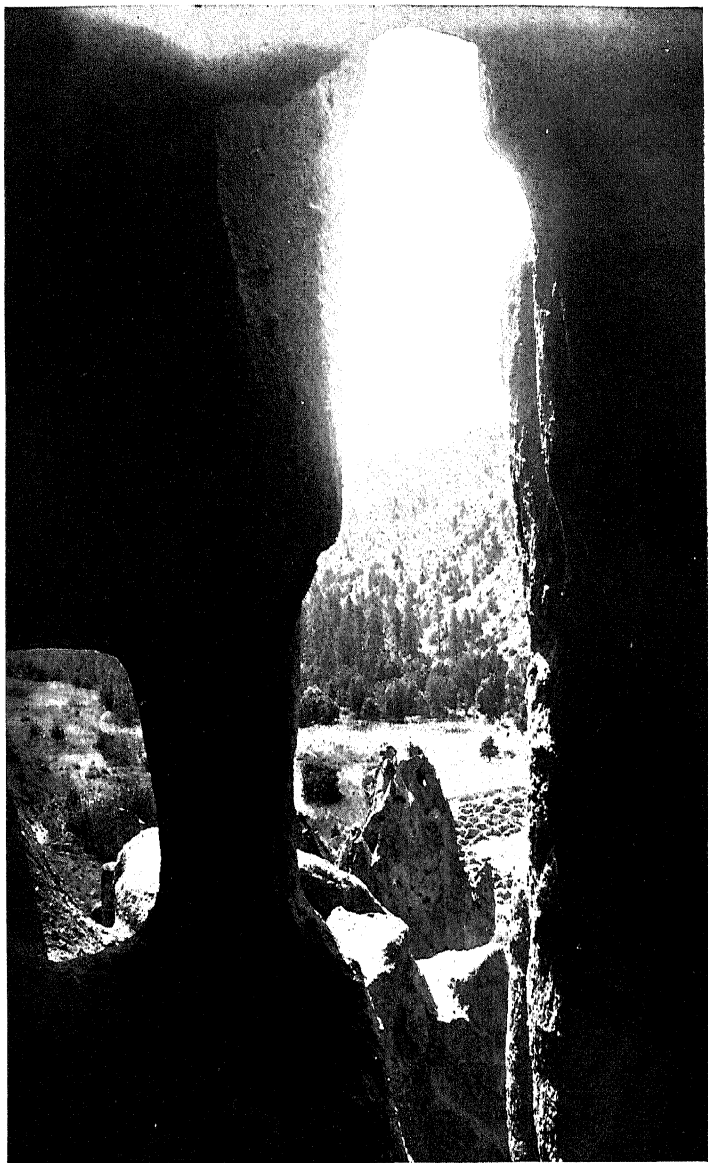
be. Our board meetings were not in the Capitol in Santa Fé, but amid these hoary ruins; and reverend Regents tramped the prehistoric trails of the Fi-ni-ni-Kang-wí-i (worn waist-deep in the mother rock), or scrambled up and down the talus of the first-known home of the Clareños. And they were none the worse for it.

In 1910 the 'Summer Session' was in the matchless Rito de los Frijoles, where the toilers had already worked as they knew how.

It is the most beautiful cañon in New Mexico — the Tyuonyi of at least a thousand years ago; the scene of Bandelier's 'Delight-Makers' — which has ranked as 'the only historical novel which was history, though other histories have been much better novels.' Bandelier first made it known to the scientific world and I to the popular; and here he and I camped in 1890, and made the first photographs of that Enchanted Valley. We had hoped to bring him out to see the Summer School in progress in the very gorge to which he pointed us; to sleep him in the same ceremonial cave where he and I had slept a generation before; to show also, what we think of him whose footsteps we follow — the foremost authority in our field, the Humboldt of the Southwest. But it was not to be. He died in Spain in 1914. Later, the Rito was made the Bandelier National Monument.

The Pu-yé, which we also owe to him, is a mile-long island of tufa, three hundred feet tall on the flanks of the Jemez Plateau. It and its sister, the Shu-finné, are all that is left of the upper tufa blanket. They stand above it like sky-scrapers on a plain. The rest of one thousand square miles of that tufa sheet is wasted away.

In the lower blanket, a thousand feet deep, the



QUIMU'S CAVE, RITO DE LOS FRIJOLIS

erosion of the huge plateau has digitated half a dozen cañons — each beautiful as a dream. Of all these, primitive man chose the very one that you and I would choose as best dream of all. We know not how long he haggled for choice; probably less time than we should need. Anyhow, he chose of them all the cañon of the best water, the best woods — and the best looks.

It may be a little surprising to us that primitive people invariably picked the most beautiful view and outlook. But really I don't know how we ourselves would know a beautiful view unless primitive man had known it when he found the other things that we depend so vitally upon!

Think to yourself a vast upland, seven thousand feet above the sea, forested with pine and sentineled by mighty peaks and far, blue horizon ranges. Conceive the melt of snowflakes whose trickle cut gashes a thousand feet deep and half a mile wide in this great plateau. Fancy a band of short, tough men and stout, short women, and dimpled fat children, clambering down into this safehold, dropping tired from the pursuit of wandering enemies, and wrapping around them what was left of their Kansas buffalo-robcs and lying spoon-like to keep from freezing at this new and colder altitude. Picture them wondering how to make houses, now that there were no more buffalo for tents; and then, as they watched the strange cliffs down which they had fled, finding therein funny black nodules whose chips cut their fingers.

Thereupon — since what will cut hard hide will cut soft rock — they carved their tepees in the cliff of tufa, where these ancient houses are to-day; preferable to the best tents of modern meddlers.

For a couple of miles on the north cliff the friendly rock is riddled with these ancient homes of people. Later (maybe so late as the time when England began to wear clothes), it became evident to these cave-dwellers that the fallen stones from the cliff were not wholly useless; and they wrestled these great blocks, and split and squared them, and built (perhaps for the first time north of Mexico) houses of masonried stone; perhaps, also, for the first time in the world, 'step-stone' houses: terraced as a pyramid is, and for even better reasons. They put the back against the cliff, which saved a rear wall, and made their home-holes still useful. The photographs show the original caves, the ground-plan of what we have excavated of the lower story, and the holes for the ceiling-beams for the upper stories that come, in time, to cling to that mother-cliff.

They were what you might call smart, these first Americans. Take it home! What would *you* do if your house burned down to-night, and there wasn't an architect, carpenter, mason, plumber, lumberyard — or even dressmaker — in all the world? Nor yet a delicatessen store? What first would *you* make to shelter your babies and content your wife, and feed the crowd of you? But that is exactly the problem the Indian met and mastered.

He dug holes in the cliff and made homes of its downfall. He planted the little creek valley with the corn and beans and squashes that grew wild in America when the first white man was born. He carried his babies on his back while his wife milled the corn between two rocks, and his neighbor (by turn) watched the trail to see that no Navajo devil got down to take their general scalps.

And he had a pretty good time of it — even when

he had to caucus in the great subterranean council-chambers he had digged in the valley or carved from its precipice wall. He had gods to spare; and as many children as all the gods allowed; and enough to eat (sometimes); and the best lady he knew; and he was *safe* — as not one of his Plains-roving ancestors had ever been.

Later yet, he built (or his ten times grandchildren did) a wonder of a tenement in the bottom of the valley. It was round and about three hundred feet in diameter and five or six stories tall; with a big, round court in the center, to which the houses were terraced, while outwardly they set up a sheer wall that no primitive foeman would or could tackle. It is a ruin unique in the Southwest. And we have uncovered it reverently, and you can see what it *was*. But you never would have guessed, when it was a circular mound which we all took for the remains of a reservoir.

This would look to be a pretty permanent arrangement; and so it was for at least a thousand years; but another thousand years ago, something happened; we know not what — long drouth to dry up the little brook, or bad omens like the striking of an estufa by lightning, or an epidemic (though the first Americans had practically no epidemics before the coming of Europeans); and the people of the Rito left their marvelous Tufa Town and moved southward; after ages, winding up finally on the Rio Grande just below its emergence from the Black Cañon.

I have covered this pretty fully in my 'Land of Poco Tiempo,' in the chapter 'The Wanderings of Cochití.' This prehistoric migration is only one of several that Bandelier and I traced and established

in New Mexico — Isleta and Acoma being the only pueblos in New Mexico that occupy to-day the same sites they did when Coronado came in 1540. And both of these had moved several times in the dimmer past.

I cannot too sharply emphasize the basic fact, established nearly forty years ago by Bandelier's documentary studies, our joint explorations and 'cultivation' of the Pueblo Indians — that they are the legitimate, direct, uninterrupted descendants of the Cliff-Dwellers. That is a fact so thoroughly fixed that no modern discoveries can upset it.

It has become easy and tempting for the young men 'exploring' to-day, with a fund of fifteen thousand dollars a year (where we of the School were happy if we had three thousand dollars, and got a good deal more done), to discover, find, invent lost races, with that unweighing trust which William H. Holmes, Dean of American archæologists, has so beautifully folded to its due place in Science.

They are making out of the Cliff-Dwellers almost a precession of the equinox! They have devised the 'Pit-House People,' who lined some cavities with slabs to keep the sides from falling down. Then they get the 'Basket-Maker People,' since in their ruins no pottery is found, but only traces of baskets. And then the 'Post-Basket-Maker People'; and 'The Black-and-White Pottery People'; and the 'Something Else Pottery People'; and at last the 'Cliff-Dwellers'; and then 'The Post-Cliff-Dwellers'; and then the 'Pre-Pueblos'; and at last the Pueblos.

I may have omitted something from this genealogy of the mentally unemployed; but it is typical enough, and shows that the armchair explorer whom I have

so often lambasted is not always confined to an office in New York, but may bring his armchair with him to the field, as the Briton carries his bawth around the world.

Now I myself personally have lived through more 'culture stages' and 'pre' and 'post' varieties of life — our common American life — in these sixty-nine years than these subdividers have yet found for the Cliff-Dweller-Pueblo! The like archæologist, digging up the little New England town where I was a child, would (if of this cataloguing mind) prove to us that at least a dozen different peoples had lived there between 1860 and the present day; their clothing, their utensils, their vehicles, their food, their architecture, and everything, plainly proving a succession of races. It wouldn't occur to such a mind that even a Yankee could learn a good deal in sixty-odd years; so there must have been a dozen tribes or so before you got up even to the Pre-Yankees!

The Cliff-Dwellers were as Yankee as the Yankees. They were more adaptive — and more quickly. They bent their architecture, their arts, their utensils, to the need and the proffer of their environment. They never seem to have produced a tenderfoot — though their ghosts are molested and tousled and dug up and tabulated by tenderfeet in plenty, and some of them irremediably.

Let us remember as a fundamental that the Cliff-Dwellers were cliff-dwellers, sprung from the buffalo hunters of the Plains, living for perhaps millenniums in their fastnesses farther west, living and learning, and changing some of their styles of dress and of pottery and the patterns of their bows and the kinds of their houses — but never in any way changing from that sturdy stock which in its time was saved in

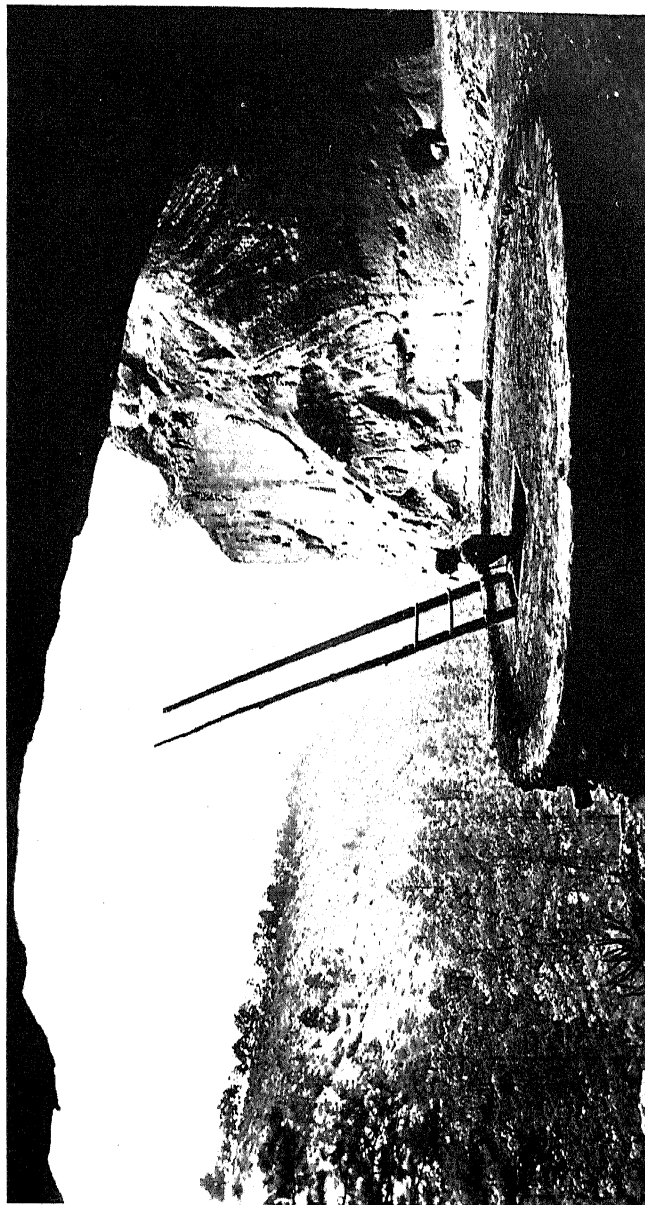
the cliffs and on the mesas of the Southwest, came down to easier life where the farming was better, and are still there — our noble aristocracy of the Pueblo Indians.

Now a summer sees fifty or a hundred people in camp in the Rito or other sites; and lecturers from Harvard, Yale, Washington, Hartford, Ottawa, and Denver — there to tell us of the study of man here and elsewhere; the archæology of the Bible and Homer; of Italy, Egypt, Greece, and Palestine — and to learn far more than they teach. Next year, there will be a hundred in camp and learning.

The lectures are among the pines and there are walk-talks over the ruins where our Pueblo Indians are at work excavating, or up to the hundreds of beautiful, ghostly caves that were home to some one a millennium or so ago. We trace the cave groups of the Snake Clan, the Sun Clan, the Mountain Sheep Clan, and all the rest; or scramble down to the Falls, where the little stream leaps forth over a wild cliff to be swallowed in the 1200-foot cañon of the Rio Grande; we toil up the ancient Cochiti Trail, on the south cliff, to view the full glory of the Rito and the little guard-house pueblo ruin at the top.

Many a morning we go back to scabble up (by dizzy ladders and the goat-trail our 'boys' have carved in the tufa) to the great Ceremonial Cave, nearly two hundred feet up the cliff from the stream; to study over and over the ruins of its little masonry houses, its cave-cells, its fine estufa which we have restored exactly as it was.

After the night lecture we circle the big camp-fire of piñon logs, and examine the 'finds' of the day's



THE CEREMONIAL CAVE, TYÚONYI, AND THE ANCIENT ESTUFA RESTORED BY
THE SCHOOL OF AMERICAN RESEARCH

excavation, and sing to the guitar — songs of our childhood, songs Spanish, French, German, Irish, Negro, College, Church — until it's bedtime. And sometimes we don't know when that is. But whenever it is, our lullaby is the whisper of the pines and the soft chuckle of the little brook or the tap of the summer shower.

Does that sound esoteric?

Meantime, the Regents and the Managing Committee meet and make policies; the students wrestle with their notes or new problems and the mere visitors sally with pack-train to the Stone Lions or the Painted Cave, or trudge up either cliff and along its rim; and the Indian workmen are passing from hand to hand (and to the 'dump') the fallen tufa building blocks of the ruins, and screening the earth of the buried rooms for artifacts, and wheelbarrowing the remnant dirt along plank runways to outside the ruin, where the rains will take care of it.

And the last, tired night these same brown workmen (washed in the brook and spotless in dress) light a hundred signal fires along a mile of the top of the talus and in the caves, and a huge bonfire in the court of the Round Ruin, and step for us the ancient ceremonial dances, singing as they prance, and shown up by the illumination of the cliff — probably the noblest footlights ever lit.

That one evening is worth crossing a continent to see. And the whole four-weeks session, two in Santa Fé, and two in the Ruins, is a revelation to such as have been taught to believe (by its alleged high priests) that archæology is 'dull,' 'heavy,' 'only for professors.' Why, it's the humanest study on earth! And the most fun!

But if European scholars (and our Eastern ones at last persuaded to wander) bat their eyes with bewilderment at the glory of the Pu-yé or the Rito — those miles of creamy cliffs punctuated with the little shadows that mark where once were the homes of thousands of the first Americans, burrowed out of the same cliffs — they lose their breath altogether in a blessed wonderment when first they come face to face with the great architectural achievements of the ancient Cliff-Dwellers — the Pueblo Bonito, in the Chaco Cañon (rich with many another mighty ruin), or the Balcony House, or the Cliff Palace, or many other startling monuments of our American antiquity in that incomparable plateau of the Mesa Verde, without much doubt the richest area in the world of such archæologic wonders.

The storied castles on the Rhine would make a sorry showing beside these noble castles, mostly lodged high in a great natural hollow in the face of a lofty cliff, safe from top and safe from bottom. Like giant bowls set up on edge in the face of the cliff, these vast concavities were right to the hand of the adaptive and inventive aborigine, and they were safe from the other side of the cañon, from people with only bows and arrows.

Considering that these people had no metals whatever and that their only mode of dressing stone was to break it and rub it on another stone until it was reasonably squared; that they had neither cement nor other mortar than adobe mud; that they had no sawed lumber for floors and had to depend on logs and poles for their ceiling beams and floors, these ruins of the Mesa Verde can afford comparison with any aboriginal ruins in the world.

The Pueblo Bonito (of which I have spoken in 'Mesa, Cañon, and Pueblo') was larger — a giant of a tenement. It is semi-elliptical in form, its chord facing the east-and-west *arroyo* in the middle of the little valley, its arc toward and but a few rods from the hundred-foot cliff which bounds the valley on the north. The chord measures 667 feet; the distance north and south from it to the zenith of the arc is 315 feet; the total perimeter is about 1300 feet. The whole pueblo was in fact one huge building, in parts five stories high. By Wetherill's estimate it contained at least twelve hundred rooms — which would put it in the same category with ancient Pecos (Coronado's 'Cicuye'), the largest prehistoric town in the United States.

Nearest the Cliff, the walls of Pueblo Bonito still stand in places forty-eight feet high — the great outside protective wall, without doors or windows, being among the most perfect ever laid by primitive man in this country. As much as by the area, height, and plan of the noble ruin, the visitor is likely to be impressed by its magnificent masonry. One can hardly blame the 'armchair explorer,' first confronted with these beautiful walls, for declaring them to be of 'cut stone.' Of course there was never any cut-stone masonry whatever in the ancient Southwest. The aborigines had no metals, and would not have thought of dressing rock with their tools of obsidian and agate.

Every type of masonry known to Pueblo architecture is found in this remarkable building, ranging from plain rubble to courses of ornamental mosaic. In some of the estufas we find admirable tablet masonry, alternating with bands of larger blocks. There is a bewildering number of these

sacred chambers, which I prefer to call *estufas*, as they have been called by everybody for three centuries, though the Government bureaus prefer to call them *kivas*, as they have never been called anywhere except in the Moqui pueblos, where the word is native.¹

What manner of men were these that penetrated a wilderness difficult for the athlete to-day, and proved the dark cañons and the sunny mesas between; pecking toe-holds up the cliff to the great shell-shaped caves; breaking up stones fallen from the cliff to the bottom of the cañon and rubbing them on one another until they were fit for masonry; then packing them up their toe-holds two hundred or three hundred feet to the cave, where they builded their houses and their *estufas* and their four-story towers — noble architecture, some of these buildings, as the Cliff Palace, five hundred feet long? Well, they were the ancestors of the people that built the two five-story pyramid community houses of Taos, which are standing still, almost as Coronado found them in 1540; and Zuñi, which was a six-story pyramid when I first photographed it forty years ago, but is now all spread out on the plain in Mexicanized rooms, with only a trifle of the second story of the great pyramid standing.

The Pueblos have inherited the full building

¹ *Estufa* is Spanish for a stove; and in view of their generally circular form, and of the heat of them when they are filled with humanity, there is nothing far-fetched about the title. In any event, it is the historic word, universally understood among all the pueblos, and among students throughout the world; whereas *kiva*, a Moqui term, is not understood in any other pueblo — each of which has its own native name for the sacred room, but all of which use the word *estufa* familiarly.



AN EIGHTY-FOOT ESTUFA IN THE CHACO CAÑON

dexterity of their forbears, the Cliff-Dwellers; but they have adapted their sites and their architecture to later needs, and have largely gone down to the valley from the cliff tops and built lower houses and larger rooms. Acoma still dreams on its 357-foot cliff, with its three rows of three-storied houses nearly a thousand feet long; but this old Sky City is feeling the line of least resistance, and more of its people move down sixteen miles to the valley where their farms and irrigation are — and many of them do not come back to winter on the great rock, as all did in my day.

The Moqui villages are another survival. They are generally now called Hopi, through a strange impudence of a sciolist who was sent out by the Bureau of Ethnology to study the Moquis and found that they didn't call themselves Moquis, but Hopitu Shinamu. So he gravely announced, this being too long for him, that their proper name was Hopi. And the Santa Fé Railway, always anxious to be in line with Science, adopted the blunder — which is now probably too widespread to check. The Moquis don't call themselves Moquis, nor do the Navajos call themselves Navajos, nor the Pueblos call themselves Pueblos, and so on through all the tribes. Neither does a Frenchman call himself a Frenchman, nor a German himself a German. We know them by the historic names that have run through the centuries — and Moqui has been historic for three hundred and eighty years. The Moquis still retain their ancient villages on high cliffs; the old protective location, gained only by difficult trails which no foeman could climb in the face of a few boys with rocks in their hands.

Wherever he builds, the hand of the Pueblo to-day

is as sure and his adaptation to convenience and necessity as quick as was that of his ancestors in the days when the English were wearing hides.

I cannot say enough of the impressiveness and the beauty of those castle ruins which the first Americans left us all over lower Colorado and Utah and New Mexico and Arizona. They are a mighty national asset; and the national parks which contain them are among those which will without question be most visited and most instructive to the visitor.

You will note in them not only an architectural instinct and sense of the highest order; you will note in them not only the astounding adaptation of limited means to the hand, and provision first for safety, then for comfort, then for water and wood, and the hunting of game; you will also note — and you may search the whole Southwest in vain for an exception — that these children of the cliff not only knew scenery when they saw it, but made it theirs. If you wish a landscape memory you can carry all your life, you have only to hunt it where the first American found and homesteaded it.

If any one of these major ruins of the Southwest — in this America where 'we have no antiquities' — were anywhere in Europe, we should have been brought up with it on our mothers' milk; our literature would be full of it; and our travelers abroad would visit it as per inevitable programme.

But being in America does not really detract either from its beauty or its antiquity or its appeal to the artistic and the intelligent. One might almost conceive that it would be a patriotic pleasure to realize that we have in our own land antiquities and

architectural remains as noble and as fascinating as those of the Old World.

It is forty years since I invented the slogan. 'See America First' isn't laughed at now; tens of thousands of Americans *are* seeing America first: even this long-forgotten but richest corner — our Southwest.

Nothing has been more revolutionized within my memory than the *modus* of intelligent museums. Instead of showing all they can, bewildering the visitor to-day and scaring him from coming to-morrow, and boxing the rest of the exhibit in the basement, they have had to learn to expose what people can understand-at-a-time, and change the exhibit often. Fancy a dry-goods store keeping its show-window the same for twenty years! The modern merchant knows that *all* his money must work; the modern curator knows that all his collections must work. What he can't use in his own cases he sends in traveling loans to high schools, chambers of commerce — and any old (or new) institution that can and will carry the news to any man, woman, or child, to any visitor, oldest resident, tenderfoot, or other human soul. Extension by lecture, lantern slides, collection loans, special classes, was adopted at the very outset in 1911; rather early in general museum history.

The work of the School — and its interest — has not been confined to Quiriguá, the Pu-yé, and the Rito. It has done great things at the famous Balcony House, on the Mesa Verde; at Jemez, the Chaco, and other great American ruins; on the cultures of the Rio Grande Valley; in Mexico, Utah, Colorado, California.

It not only excavates and fills museum showcases

and restores the monuments of our antiquity; it records the ancient speech and song through a linguistic laboratory of the latest and most exquisite equipment. It gets out into the public schools system and to business men and women. It has made itself a part of the educational life of America, and is growing monthly more so. It can stand any cross-examining in the severest courts of science — but it is equally concerned to face the jury of humanity. If it can't make this 'livable' and lovable (and in truth indispensable) to common mortals, then its workers are wasting their lives: which is the last thing they desire or intend to do. Not one of them would spend the 'principal and interest' of this our little span, to earn the rather grudging consent of 'scientists.' But if they can bring this study of man's childhood *home* to the children of men — that really will be worth while.

The School is answerable to the American Institute of Archæology, its Puritan mother; but it is a dutiful, as well as a strapping, son, and the policies devised by it, though to be ratified at home, are practically autonomous. Of its Managing Board of thirty-five, seven are *ex-officio* from the heads of the Institute and the Directors of the three Classical Schools (Rome, Athens, and Jerusalem), and the other twenty-eight represent American scholarship at large: universities, museums, and societies, in the United States, Canada, and Mexico.

It is dangerous playing prophet, and unwise. Only a quarter of a century ago, the greatest economic geologist America has ever produced, J. D. Whitney, announced in the *Encyclopædia Britannica* that California (of which he was then State

Geologist) had 'indications of petroleum, but could never become a commercial producer.' Particularly 'gushing oil wells, like those of Pennsylvania, were geologically impossible.' To-day, California is the greatest oil producer in the world, by far, and there are hundreds of 'gushers' — one of which for twelve months spurted, two hundred feet in air, the modest measure of fifty thousand barrels a day; as a result of which they have to dam up valleys, make great lakes, and lay hundred-mile pipelines; and with this 'error of thought' they run the locomotives and the factories of California.

But I don't mind the risk, and here's the promise — that the next generations of Americans will know the antiquities of America, from the Mesa Verde to the Quiriguá Park, almost as well as they know the mature ladies of Samothrace, and Melos, and the Lions of Nineveh and Berne, and Solomon's Temple and the Acropolis. And will get of them quite as much of the good they all are left for — the ripening of the grace and joy of life.

NOTES ON THE FOREGOING

The very natural childish theories of migrant cultures — of Atlantis and Bering Straits, and the Lost Tribes of Israel, and Adam as Sole Dad of All that Be (all of which grammar-grade 'science' derives exclusively, and depends no less, from sheer faith in the wondrous folklore of Genesis, compacted by a master-imagination from half a dozen different cultures) — these theories will not stand the acid test of common-sense.

Migration means, not the carrying of art, but the loss of it. The new conditions breed new architecture, new cults, and even new language. Look at the buffalo-hunting, buffalo-fed, buffalo-tented Plains Indians that seceded and learned to build the noble masonries of the Cliff-Dwellers — and evolved a speech as alien as German is from French. Look at the hell-

bent Apache — the Prodigal Son of the sedentary Pueblo. Look at the Incas from Titicaca to Cuzco. Look at the Mayas from Copán to Chichen-Itza. If you will, look at the Yankee from Boston to Los Angeles.

Nothing is more obvious (when you see it yourself, and trace its roots and its branches) than that every culture stage was practically born, and effectively blossomed, just where its fossil roots radicate to-day in the dust of the men that fathered it. The Moor in Spain is the only approach to an exception — and he didn't *migrate*; he merely crossed the ferry, as it were from Brooklyn to New York. Why, the very *Aztecs* (Nahuatl) forgot their pyramids as they drifted down to Costa Rica from Mexico; even as the Mayas demitted the chaste habiliments of their giant goddesses between Honduras and Yucatan.

There aren't — nor ever were — any 'lost races' in the New World; no mysterious vanished civilizations; no dwarf nations nor giant nations; no people that knew more astronomy than Greenwich ever dreamed; no ex-Egyptians that had their ancestors 'backed off the top of Cheops.' They were just plain Americans — with God, and not Le Plongeon, for creator. Plain American Indians — for 'Indian' is no worse blunder than 'America,' and the acceptance of four centuries has made both proper. Indians of hundreds of tribes, scores of idioms, dozens of graces of visible culture and impressiveness to the careless eye; but all Indians, so much alike in the essentials of social, political, and religious development, when you get under the showy skin, that no man has found a vital difference.

So let us please remember that the Aztecs, Toltecs, Mayas, Yucatans, Incas were just daily people who 'done their level best,' ate, slept, worked, multiplied, worshiped, and slew, and left their mark behind them. And all are just Americans!

The vandal rape of Cleopatra's Needle will not be matched in Guatemala. A few hundred dollars of stereotyper's paper and Portland cement will give us exact and more enduring replicas of any of these monuments, at a fiftieth of the cost of transporting them — a precise reproduction for each of as many museums or parks as wish; and the sacred original kept decently where it grew under reverent hands and home skies. Several of these majestic monoliths are reproduced in the United States. Stephens, already, was moving to transship these wonder-



AMATE

From a drawing by Hernando G. Villa

stones to New York. But we are sixty years older now in scientific ethics — and the Guatemalans in patriotism.

The Guatemala photographs with this chapter were made by me, with the help of Jesse L. Nusbaum, of our staff, in March and April, 1911. Of course we could not develop negatives in that atrocious heat, so we saved them to be treated when we should return to the School in Santa Fé. Leaving Guatemala, Nusbaum and I were overladen with other things, and he was ill; so we left all the negatives of the expedition to be brought up by one of our employees who was coming some weeks later.

When he reached the United States, he had a harrowing tale that he had lost the negatives, — he didn't quite know how nor where.

I wrote my article and sent it to the 'National Geographic Magazine' with prints of my choice negatives. The article was returned with the information that they had a prior article, by a member of our staff — with these same photographs.

To pay tribute to Congressman Lacey is not to derate any other of the foreseeing men to whom we owe so much for leadership and action in a matter to which the whole country is at last awakening. Theodore Roosevelt, while President, wrought wonders for the cause; and there were many others — and the omnigerent Hewett. But Lacey, the legislative Moses, was Chief. He was largely instrumental in preparing the bill (Fifty-First Congress) which founded our Forest Reserve System; he drew the laws under which the Yellowstone National Park is governed; he got the appropriations which perpetuated the greatest American mammal, the bison, by providing for its board and lodging in the Yellowstone and Wichita Reservations.

Under the Lacey Bill the Audubon Society and League of American Sportsmen secured the designation of a large number of bird reserves all the way from Alaska to Florida, as breeding grounds for wild fowl. It was Lacey who prepared the bills creating the Wind River National Park, the Crater Lake National Park, and the protective laws for Alaska. As Chairman of the House Committee on Public Lands, he secured much of the legislation now effective as to irrigation and other matters touching the public domain.

The passage of the Lacey Mining Law has saved thousands of lives in the last twenty years. It was Lacey again who procured the passage of the bill for the Preservation of American Antiquities (Fifty-Ninth Congress); and he was largely instrumental in the establishment of that magnificent National Park of the Mesa Verde. He was for ten years on the Committee on Indian Affairs, and he had charge of practically all the bills for opening up Indian reservations to settlement, and devised the most successful plan for drawing by turn in making entries when these reservations were opened up. His services toward the Indians of the Indian Territory, and other civilized Indians, are notable in a legislative history in which it is welcome to find (as toward our wards) a human touch.

There are other men to whom we owe a similar debt, and it is not too much to say that, except for the tireless energy of Hewett, the quiet sound backing of Holmes (of the National Museum) and of Hodge (then of the Bureau of Ethnology, now of the Museum of the American Indian), much of the vital legislation for the higher scholarship of the world would not have been accomplished even yet.

The work in Guatemala was subsidized with \$2500 a year from the St. Louis Society, Archæological Institute of America, and a like sum from the United Fruit Company, whose vital head, Minor C. Keith, was one of the rarest of curios — a really intelligent business man.

Remember what a banana meant in New England, half a century ago? Realize that to-day there isn't a petty store between Nova Scotia and Arizona, and between Arizona and Alaska, wherein there doesn't dangle a bunch of this tropic fruit? Keith is the personal reason for most of this change.

No other organization carries so much foodstuff so far to so many people as the 'trust' he has built upon the banana. But also (for there have been many organizers) his private collection of Central Americana is said to be the best. A business man who can catch fun as well as money — that is a rare bird.

No one to this day, of course, has remotely approached Bandelier in documentary study of the Pueblos. Neither, I

think, does any one know so many of the prehistoric ruins as he knew.

At Mesa Verde there is our American School graduate and pride Jess Nusbaum, one of the most extraordinary young men I have ever known. Incidentally, he was the builder of the 'Cathedral in the Desert' or Art Museum, in Santa Fé, to my notion the most interesting single building in the United States. His work at the Mesa Verde has been phenomenal and he is now Superintendent of all archæology in all the national parks in the country.

IX

THE LAST OF THE TROUBADOURS

IF one could write life the way one lives it — if we were less dull of eye and ear, less impervious to the very miracles that walk beside us every step of the 'monotony' we create by shutting our windows against God's ingenuity! If we could consider the grass, how it grows singing; and the laughter of the flower; and the wonder of the immemorial tree which was tall when Solomon was born, but still feels in its veins the annual youth to grow! If we could dream truly out why is a butterfly, or what is behind the jeweled eyes of the toad that hops in our garden!

Nay, if we could even read the clear messages flashed to us by the faces nearest and dearest — if we could always flash back their tenderness, or feel their hurt wistfulness, or translate their roused defiance!

But we cannot. We have lost both the eye and the thought. The attention and perception which are the chief safeguard of the savage are among the first things we lose in civilization.

So we write fiction and live parts — because we have neither observation nor the sincerity which derives from it. So wise authors (if such things may be) avoid true stories.

But this one I *have* to write. It is the only monument I (or any one else) can put up to the memory of one of the strangest, most simple, subtile, and wholly versatile anachronisms any one ever knew.

He belonged back in the Crusades; Richard of

the Lion Heart would have made him Chief Minstrel; and Saladin would rather have captured him than any other save the tawny hero himself.

To think of his persisting into the twentieth century, and in the United States — even though California is different, and the last stronghold of our Romance!

Here's for the story of what little I know of his checkered life — little beyond the six years he was a part of my own; a delight and wonder to thousands of my friends and visitors, and to me a brother of long ago. We were both born too late by about three hundred years.

Perhaps the manner of our first foregathering will indicate this. My home, built with these my hands, is generally said to be the last frontier of the old California patriarchal days. The noble old ranches, the noble old Spanish families, are all 'gringoized.' They have Japanese cooks!

Their old hospitality was pearls cast before — Americans. When the newcome stranger by the tourist excursion-load walked into their bedrooms, invaded the dining-room, and lined up against the wall to 'watch 'em eat,' commenting with corresponding delicacy; and swarmed, hats on, into their private chapels, discussing Papistry before the Virgin; broke whole sides off orange trees, and wondered 'why these Greasers couldn't learn American ways!' — why, finally, those doors, that had been open to all the world, closed like a wounded flower. Don't fancy that these are figures of speech. I have seen it all myself, these more than forty years in California — and worse than I can print.

That is one reason why I decided, thirty years

ago, to hold the last trench; to have a home for the spirit of the Old California; a home hog-proof (if barbed wire, a bull-dog, and certain 'company manners' of my own could make it so); but with its latch-string out for Love and Humanity.

And I guess it is so. It is a pretty sizable castle of great granite boulders, bended around a *patio* whose center is a giant sycamore, 'The Alcalde Mayor' (Chief Justice), whose 150-foot spread of branches hovers every roof of four sides of the court.

There is a human court also, named for the Tree. Under formal and formidable subpoena it arrests travelers 'who have done something worth while,' and tries them before a jury of Old-Timers on the serious charge of 'Not Knowing an Old California Good Time When They See it.' Many have been tried — and all acquitted. For they did know when they saw. And the most hardened Easterners!

That's the way Pancho came into our horizon. There was an *Alcalde* on — two prisoners of international fame and a jury of twenty. My young blind Mexican protégé and prodigy, Rosendo, was feeling along his way to comfort us. At First Street he and his stick were stopped by Pancho, whom he had met when the latter arrived a few weeks before.

'For whither?' said Pancho.

'For the Alisal, and *mí tata* Don Carlos. It is a night of the Alcalde Mayor. Many *hidalgos* — and I play and sing. Come along!'

That, you *sabe*, was the Old California etiquette. If you were bidden to a set banquet of twenty-five at the house of a friend of confidence, and if on the way you met some unbidden friend, or new but *simpático* acquaintance, or a dozen of them, you said,

'*Vámonos!* Let's go!' For you knew all people of reason would be welcome with your friend.

When the Alcalde in his shirt-sleeves started on a second helping of the long table, he dropped the carver long enough to hand the guitar to the blind boy. '*Embócale, hijo,*' he said; and went back to the baron of beef. He had plenty of time — for no one was in a hurry.

Rosendo wakened the guitar and sang in his thin but competent voice Spanish songs of tears, Spanish songs of laughter; French songs; yodels; English songs which suffered by the comparison. He whistled duets with himself — two clear, blending parts. He borrowed a master's violin and played the first ten bars of '*Träumerei*' — and then lowered the violin and played the bow across his nose, finishing that *Wunderlied* so. And you couldn't tell the difference!

Then we handed him his Rosendolin, the wizard one-stringed harp of his own blind invention; and he played such poignant music that not an eye there but leaked. He picked that wire string with his finger and made the frets with a glass rod in his left hand. And the notes were even as those of a violin at that special stress which makes you want to cry.

He had forgotten all about dinner, and the company ate automatically.

'Now you, Pancho,' he said, handing his harp to willing hands, and the guitar to his neighbor.

Pancho swept the strings thrice. I shall never forget the little rattle of forks laid down, and then the dead hush. Just that question of his fingers to the chords stopped everything else — though there were groups there that had something to say, one to another; and though this is nominally in the United States where we jabber through Grand Opera.

He was a weazened, grizzled, shaven man of fifty-eight, and of about ninety-five pounds. His small hands were used to rude labor; his chest was almost tubercular thin; his face of the beautiful ugliness of a Roman coin in the pre-idealist era. He could barely write his name; and a dozen words would have covered his English.

But in the space of a minute, and for the space of two hours, he was Master.

Many were there from the pages of 'Who's Who in America,' and two from 'Who's Who in the World.' But the gray Andaluz was the only 'Who's Here,' after he began to compel those strings. From the skimpy chest rolled a voice of trumpet power; and the hatchet face was as a moving-picture of his thought; a drama in itself. Spanish love-songs. And Spanish songs it was as well the ladies could not translate literally — though they were keenest in appreciation of the 'swing.'

Then the *Jota Aragonesa*, one of the oldest and the most wonderful of all the singing-dances of Spain. The Alcalde sprang for his castanets, and every foot kept pulse with that irresistible rhythm.

As a boy in the seventies, Pancho had fought under Don Carlos; and now he jumped into his Carlista March. No wonder the Pretender came so close to getting the throne of Spain — a warmed-over pancake would get up and fight to such a march!

The bugle-calls — Boots and Saddles — Fall In — Forward! The clatter of the snare drums — the squeal of fifes — the smash of cymbals — the thump of the bass drum — the full brass of the band! The tramp of a thousand feet — the pop of muskets — the meow of bullets — the thunder of cannon — the yelps of the wounded — the shouting of the charge!

It was all there, in so perfect mimicry as I have never known elsewhere by any medium. And all on one tinkly guitar.

At the midnight parting I said to him: 'Another *Alcalde* next Sunday. Come!'

It chanced three Sundays running; for there were notable prisoners to be tried, and jury-service was not wholly a bore.

The third midnight he waited past the company and drew me aside.

'I not like your country — it is cold in the heart. But I like this! *You* are like home. Would your Excellency mind if I came to live with you?'

I looked him up and down. It was too good to be true! Get the Last Minstrel for my own?

'Francisco,' said I, naturally assuming the feudal privilege, and maintaining that poker face which through a third of a century on the frontiers has been next in usefulness to me after my Puritan training — and Brother Colt; 'it is your house. Come, and God be with you.'

Next day he came — and I think under the appointed auspices — no living kin behind him; a political exile from his native land; his worldly possessions in two valises — and a guitar. For six years he was the most interesting person in this house — or in this region.

His name was Francisco Amate. He was born in Andalusia, the merriest province of Spain, about 1850; and grew up with the old-time minstrels. The collapse of the Carlist cause in 1876 made its followers unwelcome at home; and Amate drifted around the world. A Jack-of-all-trades, and good at all, he made his way easily, despite his lack of any but the Spanish tongue. He reached California from

Australia, a few weeks before God turned him my way. And the guitar (under his fingers) had been worth a passage anywhere.

So at last he came to a safe anchorage here — with a fellow anachronism — and became a feudal retainer. Except, I don't believe they had such chameleons in the Middle Ages!

I was born a Yankee — in the old Fanny Davenport house in Lynn, within fifty feet of the pounding of the Atlantic. I know by face every county in New England and nearly every township; and something about Yankees. There is a superstition that we are ingenious; and who are we that we should deny it? But I would like to have taken Amate back to the least sophisticated New England community, and 'sicked him on them.' For a certain humility is the prescription that is good for what ails all of us.

Almost instantly he *inherited* the tiny ranch of three acres. The brats of the neighborhood — my own included — learned to respect it. It was a task to convince them that my painful young fruit trees, watered in the sweat of my brow and of my water-bills, need not be broken down. Yet Amate was equal to it. I have never known a better heart — but a butcher's cleaver would have run from his face when he 'meant it'; and his voice, while it never scared itself, carried conviction like my old buffalo-gun. But the brats all adored him. When he had taught them the fear of God, he'd help them with their boy contraptions as no manual arts professor could. No matter what they wanted to make, he could show them.

As to what I wanted done — he promptly took that out of my hands. His intention and attention

were almost uncanny. Above all, he knew exactly how to do a thing he had never even heard of before. Now and then, after a warm argument I would have to say: '*Pues*, Pancho, but this is the way I want it done. Would you do me the favor for once?'

To which he would answer: 'You are the *Tata*. I will do as you say. But my way is better.'

He knew how to chuck a pining spinster rosebush under the chin and bring it to the blush of youth. He would talk Spanish — and hoe — to a dwindling tree, till a famous gardener who watched him two years said to me, 'Next thing, I expect to see those trees following him around!'

Tons of boulders, gravel, soil, he shunted about by wheelbarrow. Whenever a cook elapsed, Amate would take the kitchen and give us strange dishes, that were immediate friends. Cooks always like me; and when I find a lovely dish in some restaurant of feeling, I get somehow to the kitchen and the chef, where professional courtesy and a few cigars will unlock the recipe for me. And Amate, once told, would improve on the original.

Such 'tripe Caen' — such 'macarones de todos santos' — such 'antipasto de sole' — sure, they were never made elsewhere. He chopped wood for the fireplaces, and made cabinets and tables for any unpreëmpted corner. The stump of a huge sycamore grew, under his fingers, to be the only 'rustic chair' I ever saw with respect or would admit to my barbarian house. But it is a creature, of three hundred pounds, and now the Judgment Seat of the Alcalde Mayor.

His tools were a hammer, saw, file, pliers — and two hands. He picked up in the *arroyo* a revolver

with the chambers lost, and made it a good single pistol. Of a wrecked baby-carriage and a high-chair he evolved two better chairs and two stands. He had never played with a trowel; but when the call came he proved a better brickmason and plasterer than I.

One of his masterpieces was when he took two two-quart aluminum stew pans, one with the bottom punctured and the other with a bad top. He amputated the bad bottom, and cut off the good top with a jackknife. And then with a hammer and a pair of pliers, he bent each edge over one fourth of an inch, until it was a flat hook, that on the bottom being on the inside, and hooking downward; that on the top being on the outside, and hooking upward; so that the two engaged as when you half close each hand with the four fingers 'engaging' clear across. To make this 'lock' on a circle took almost incredible patience; but he did it; and then hammered down the joint until it was absolutely watertight, and perfectly good for cooking. This specimen is in the Southwest Museum — I think perhaps the most extraordinary achievement of rough efficiency that I have ever seen.

Yankee? I felt like going down from the Den and begging his particular pardon, every time I thought of Massachusetts!

But I had not begun to realize.

We had also an Indian boy, a Pueblo from New Mexico, whom I had known since first his parents did. Procopio was as princely looking a lad of nineteen as you will see; and of the Isleta training — which means of the True Believers. Of his clear tenor I recorded by phonograph scores of the best

Indian songs ever saved. He looked a poet, and he was one. Also a big, powerful Pueblo farmer, and elder son. He shared with Amate the duties of the kitchen and the 'place.'

Unhappily, he was epileptic. Now and then they had to call me from the Den to gentle him. He knew his friend and master's voice — in five words. I think the three of us loved one another; I can speak for one. But there was always a smouldering jealousy as to which of the *criados* was more valuable to Tata.

The night Before, I was brought home from the beach with a ghastly wound in my instep and tucked to bed.

In the morning I crawled out in pajamas — and sounds called me to the porch — and I shall never forget.

The little old man had been watering my baby's garden for me. And the stalwart Indian youth took the hose away from him to water the rose-garden for me. Or tried to — for Amate held on, and turned the nozzle to a personal application.

And then the red came in 'Copio's eyes, and he ran amuck. It was all in less time than I write three words of it. Across the *patio* fled Amate for the love of life. A rod behind him charged Procopio, his splendid hair outblown, his great eyes like fires, his right fist swinging high a three-pound rock, his voice — that voice of the songs! — yelling, '*Te mato! Te mato!* I'll kill thee!'

My voice has some reach, and I used it all. "Copio! 'Copio-o-o!" If he had heard! But it was no longer 'Copio. I have seen, in forty-odd years of the frontier, some grisly sights — but never anything like that beautiful demon.

I ran after, roaring. But my run was a hop on my

left foot. Probably two seconds would have saved it. They rounded the corner, and Amate leaped into his little room and slammed the door, yelling, '*No entres!*'

But 'Copio, the boulder still poised, and without one hitch in his mad pace, shattered the frail door like an eggshell. A pistol cracked — the revamped one from the *arroyo* — and I just caught Procopio in time, lifting his one hundred and sixty pounds to his bed next door, and took the 'gun' away from Amate.

For three days the old man hovered the boy that had tried to kill him. He did not sleep, he would not eat. The police took my bond for him. He sat or knelt by 'Copio, their hands entwined; and brushed away the flies and was jealous of the doctors. It was *his* boy! They talked and cried together — and I cried as I listened. I have seen the finish in many lands and in many ways; and some that were next my very life. But never so exquisite as it was between this illiterate Indian boy and this illiterate Spaniard.

'You had reason,' said 'Copio, over and over.

'God forgive me, little son! I was afraid. But I meant not to hurt you! I shot down to scare you off — and it kicked up!'

The boy was conscious to the last. At four of the third afternoon he roused suddenly from a nap. 'Tata,' he said to me, 'you were always good. Forgive me!' And to Pancho, '*Un abrazo!*' (an embrace).

Even as Amate drew him up to his heart the look came — and the boy was gone.

The coroner's jury took twenty-five minutes to acquit. But Amate never got over it.

Two months later I had to call the doctors for him.

'Cancer of the stomach,' they told me. Then I knew.

'Pancho,' I told him, 'you don't feel well. I'm going to send you to the Sisters. You know Dr. Laubie; well, he'll tend to you. You mind him as if he were the Tata.'

It was not a play cancer. When the surgeons were done, Amate was less one complete stomach, and his 'sarcophagus' (as my old friend Mrs. Partington called it) was neatly sewn to what came next beyond the stomach. He was surprised when I told him, next day, and inclined to be vexed.

'How can I sing without a stomach? Who gave them the right to take away my *panza*?'

'I did, Pancho. It had to be so. But you'll sing all right!'

Two weeks to the day after the operation, my desk was disturbed by a distant voice. And I ran down. Pancho was on his own bed — very gray. How he came, Heaven knows. They had wheeled him out and left him to sun on the high balcony of the hospital. Below, he saw presently a swarthy gardener who surely could talk Spanish. '*Amigo!* For love of God, help me down!' That's all he remembered — nothing of the two blocks to the street-car from there; nothing of the transfer; nothing of the four blocks at this end.

'But didn't I come every day? You should have waited.'

'Sí, Tata, but I wanted home!'

This untimely jail-break from the hospital — this contempt of court as to the surgeons who had so devastated his interior — this was child's play to what had come before. I did not know the full extent of the insolence to Fate of this bubbling Andaluz until ten years later, when told by the doctors who performed the operation.

The night after they took his paunch away from him, Amate developed a 'temperature.' Laboring over him assiduously, the Sisters finally got him back to normal. But when they came to make his bed in the morning, they found half a loaf of French bread hidden between the sheets!

I don't know how many months they feed on liquids a gentleman who has parted with his mill; but I know that surgeons and nurses thought it not merely a miracle, but pretty near blasphemy, that Amate had devoured these hard crusts.

About a week later, he got the same Mexican pal to smuggle him another French loaf and a big chunk of cheese; and he feasted royally on these. That he survived even this indicates that Fate wanted to save him for a little more happiness in the world.

In two months he weighed a hundred. In three months he sang as well as ever, and had resumed his authority over my holdings. He humored the wheelbarrow a little, but was sensitive to any other suggestion to go slow.

Then he began to gad of an evening — to visit Rosendo and other Spanish-speaking friends.

In the sixth month he came up to the Den, the first time I had ever seen him embarrassed.

'Tata, would you mind if I married me?'

'What! Why?'

'Because I never did, and I have found a lady who thinks I am good, and I think she is *very* good. *Con su permiso?*'

'Pancho, there's no fool like an old one! Haven't you seen how — Well, bring her here; let's see her.'

So, Sunday he brought her — a simple, clean Mexican old maid of forty-two, the Cinderella of

her house. We had a good feudal conference. She was of the old-style Mexican breeding: God-fearing, parent-obeying, all-respecting. And when her eyes turned on Amate, I knew he wasn't mistaken.

So we made the trousseau; and as they were Catholics I got the Vicar-General himself to weld them; and Amate fixed up their little rooms with an ingenuity astonishing even in him. It was good for the whole house. And how he sang of an evening, and worked new wonders on the guitar!

Elena was not unsightly, for her age and birth; and the new happiness in her submerged life made her really lookable. But the more she smiled, the less one could forget the absence of one front upper tooth.

It seems that even the bridegroom noticed it.

One night they were late to dinner — and any one who is good enough to live in my house is good enough to sit at my table. We were all seated when Amate came in, leading Elena by the hand. He stopped beside me, till we all turned to see what was up.

'Now, *smile!*' said he.

Elena obeyed. We stared like the stupids we are. But I was once Indian — and Pancho caught the awakening in my eyes and doubled up in riotous laughter. For Elena had all her teeth. He had taken an ivory toothbrush and carved her a tooth and fitted it!

Thenceforward she always wore it to town or for company. Her others may have been more helpful to her — but none more becoming.

The two made a wonderful difference in the house — and were as great a joy to our friends. Elena took up the kitchen, Amate ran the outside;

and at night his guitar was a glory. Some of the world's great musicians have 'let loose' here — but none that did not hush when the old troubadour touched his guitar. When a bishop chanced in from Peru, and Amate started his 'Mock Mass,' I almost lifted my hand — but didn't quite. And the bishop laughed till he cried; as we heard in succession the old priest's basso, the young priest's baritone, the sexton's tenor, and the acolyte's treble — all in a wonderful farrago of make-believe Latin.

It was never over until we had had the *Jota Aragonesa*, and the 'bones' were a part thereof. And if you know any physical exercise so all-employing as to sing it with Amate and play the bones to his guitar at once, you know more about anatomy than I do.

And then after dinner one night, when Tata was away, Amate came to cheer the family with his guitar. He began *La Jota*, and with the verse-end started the 'bones' — with his mouth!

Hundreds of people who have heard both — Amate's guitar and my wooden 'bones,' and Amate's guitar and Amate's vocal 'bones' — will bear me out in saying there was never a more marvelous mimicry.

As for *El Amolador* (the song of the wandering scissors-grinder) — that was an old story — his chanting down the street: 'Knives and scissors and razors to grind.' Then the whirr of the dry wheel and the squeach when the blade was laid to it — and the *whish, whish*, when the water from the can had wet the stone and changed its pitch.

But one day my old troubadour came up even more abashed than when he had asked my patriarchal authority to 'permit matrimony.'

'Tata, please do not anger yourself with me. You have enough children, and I never had one; not even — you know! And now I'm afraid ——'

I picked him off his feet, and shook him in the air. 'Enough? I wish I had forty! And if you can help the house ——'

If an artist could have saved that old face just then! And he went down in tears to tell Elena that the Amo wasn't angry.

They are lucky who can watch two such old youngsters — not to say, to *be* them! Amate invented new thoughtfulnesses for the place and for their little rooms. And Elena devised new dishes, and began sewing.

But in August (it was in July he had told me), I noticed that Pancho loitered; and once (may God pardon me!) I had a half wonder if he might be getting lazy. The devil-grass was getting into the rose-gardens, and some of the *frutales* were choking for water. And one day I went to speak to him of it. But he looked so gray that I changed the subject beforehand.

'Do you hope it will be boy or girl, Pancho?'

He looked me square, as always — and then turned away. 'As God pleases,' he said, over his shoulder. 'And God please I see which.'

I think nothing was left undone that might have saved him for that long, neither in medical science nor in love. There was nothing more to cut away of him. There are parasites that advertise cures; but once a cancer ——

He sang almost to the last, though feebly. The old guitar was beside him on his couch when he went. And he always talked of That — holding my hand.

'Being a man, *make* it one! Being a woman, guard

it! And always in your house, Little Brother! You promised!

‘Till death, *hermano*.’

‘But I — would — see — it! Lift me, Tata, in your arms. Promise again ——’

And so he went.

That was October 26. Elena never knew in two months. We had packed her off to the hospital in time for training. A first at forty-three is no joke — nor is a bereavement at the crisis. And the girls went over daily to carry cheer and good messages and pious lies to her. And being simple, she went well.

Christmas morning they laid to her breast a beautiful doll, two months fatherless when born.

That was Amate’s trust to me, nearly twenty years ago; and I have guarded it as well as I knew how, in loving memory of my inimitable Andaluz — the Last of the Troubadours.

THE END

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